

LEGIBILITY NOTICE

A major purpose of the Technical Information Center is to provide the broadest dissemination possible of information contained in DOE's Research and Development Reports to business, industry, the academic community, and federal, state and local governments.

Although a small portion of this report is not reproducible, it is being made available to expedite the availability of information on the research discussed herein.

ORNL/EIS--163-Vol.5-Pt.2

DE83 006369

EPA 560/5-82-003B
ORNL/EIS-163/V5-P2

CHEMICALS IDENTIFIED IN HUMAN BIOLOGICAL MEDIA;
A DATA BASE

Fourth Annual Report, October 1982
Volume V, Part 2
Records 6012-7587

Compiled by

M. Virginia Cone, Margaret F. Baldauf, Dennis M. Opresko,
and Mary S. Uziel

Chemical Effects Information Center
Information Center Complex
Information Division
OAK RIDGE NATIONAL LABORATORY
Oak Ridge, Tennessee 37830
operated by
UNION CARBIDE CORPORATION
for the

NOTICE

PORTIONS OF THIS REPORT ARE ILLEGIBLE. It DEPARTMENT OF ENERGY
has been reproduced from the best available Contract No. W-7405-eng-26
copy to permit the broadest possible avail-
ability.

This effort was accomplished under the aegis
of the Interagency Collaborative Group on
Environmental Carcinogenesis, National Cancer
Institute, National Institutes of Health,
Chairperson, Dr. Herman F. Kraybill.

Date Published -- December 1982

Cindy Stroup, Project Officer
Design and Development Branch
Exposure Evaluation Division
Office of Toxic Substances
U.S. Environmental Protection Agency
Washington, D.C. 20460

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED

CONTENTS

Part 1

Acknowledgments	v
Introduction	1
Users' Guide	3
Abbreviations for Analytical Methods	7
References for Data Base	9
References for Physical and Chemical Data	43
Appendix A. Journals Searched	47
Appendix B. Chemicals in Data Base (1979-1982) by CAS Preferred Names	51
Appendix C. Chemicals (1982) by CAS Registry Numbers and Preferred Names	79
Appendix D. Cross-Referenced Chemical Lists	97
CAS Preferred Names - Common Names	99
Common Names - CAS Preferred Names	131
Appendix E. Tissues and Body Fluids in Data Base (1979-1982)	279
Indices	283
Author	285
Corporate Author	299
Tissue	313
Keyword	315
Directory of Chemicals (1982)	323
CAS Preferred Names	325
Formulas	337

Part 2

Data Base	
Nondrugs	1
Drugs	327

NONDRUGS

Acetaldehyde
75-07-0
C2-H4-O
MW 44.05, BP -123.5 C, NP 20.8 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6012 Breath		GC/MS	28	2-15 ng/l	5.5 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Fidid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ACUTS: BREATH: ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotoszyński, B. Gabriel, G. O'Meill, H. Claudio, H.P.A. 1977 Journal of Chromatographic Science 15:239-244

Acetic acid ethyl ester
141-78-6
C4-H8-O2
MW 88.10, BP -83.6 C, BP 77.15 C, VP 100 mm Hg at 27.0 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6013 Breath		GC/MS	28	0.04-4 ng/l	0.4 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Fidid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ACUTS: BREATH: ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotoszyński, B. Gabriel, G. O'Meill, H. Claudio, H.P.A. 1977 Journal of Chromatographic Science 15:239-244

Acetic acid, octyl ester
112-18-1
C10-820-02
NW 172.27, BP -38.5 C, BP 210 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6016 Breath		GC/MS	26	0.028-0.48 ng/l	0.13 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 16 days before and during study to minimize number and amount of exogenous constituents. ACUTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROBENZENES	Krotoszycki, B. Gabriel, G. O'Neill, H. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

Acetic acid, phenyl- (8 CI)
Benzeneacetic acid (9 CI)
103-82-2
C8-88-02
NW 136.16, BP 76.7 C, BP 265.5 C, VP 1 mm Hg at 97.0 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6017 Breath		GC/MS	28	0.365-0.64 ng/l	0.20 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 16 days before and during study to minimize number and amount of exogenous constituents. ACUTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROBENZENES	Krotoszycki, B. Gabriel, G. O'Neill, H. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

Acetic acid, phenyl-, ethyl ester (8 CI)
Benzeneacetic acid, ethyl ester (9 CI)
103-82-2
C10-812-02
NW 164.2, BP 276 C, BP 227 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6018 Breath		GC/MS	26	0.4-1.5 ng/l	0.75 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 16 days before and during study to minimize number and amount of exogenous constituents. ACUTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROBENZENES	Krotoszycki, B. Gabriel, G. O'Neill, H. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

Acetic acid, propyl ester

109-60-4
C5-H10-O2
MW 102.13, BP -92.5 C, BP 101.6 C, VP 40 mm Hg at 28.8 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6019 Breath		GC/MS	28	2.8-9 ng/l	4.8 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotoszyński, B. Gabriel, G. O'Meill, H. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

Acetic acid, thio- (8 CI)

Ethanethioic acid (9 CI)
507-08-5
C2-H4-O-S
MW 76.11, BP <-17 C, BP 93 C, VP 1 mm Hg at 60.0 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6020 Breath		GC/MS	28	2.3-8.2 ng/l	4.2 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotoszyński, B. Gabriel, G. O'Meill, H. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

Acetoacetic acid, butyl ester (8 CI)

Butanoic acid, 3-oxo-, butyl ester (9 CI)
5118-03
C8-H16-O3
MW 158.20, MP -35.6 C, BP 214 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6021 Breath		GC/MS	28	0.1-0.75 ng/l	0.27 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotoszyński, B. Gabriel, G. O'Meill, H. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

Acetone (8 CI)
2-Propanone (9 CI)
67-68-1
C3-H6-O
MW 58.08, BP -94.6 C, BP 56.48 C, VP 400 mm Hg at 39.5 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6022 Breath		GC/MS	28	75-220 ng/l	150 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Bridg protocol 14 days before and during study to estimate number and amount of exogenous constituents. ADULTS: BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotoszynski, B. Gabriel, G. O'Meili, R. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

Acetonitrile
2-2-2
C2-H3-N
MW 41.05, BP -45 C, BP 81.1 C, VP 100 mm Hg at 27 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6023 Breath		GC/MS	28	7-100 ng/l	25 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Bridg protocol 14 days before and during study to estimate number and amount of exogenous constituents. ADULTS: BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotoszynski, B. Gabriel, G. O'Meili, R. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

Acetylene, dichloro- (8 CI)
Ethylene, dichloro- (9 CI)
7572-29-8
C2-Cl2
MW 98.96, BP -66 to -64.2 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6024 Breath		GC/MS	28	0.58-3.3 ng/l	1.4 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Bridg protocol 14 days before and during study to estimate number and amount of exogenous constituents. ADULTS: BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotoszynski, B. Gabriel, G. O'Meili, R. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

AN 26.98154, WP 660 C, WP 2327 C, VP 1 00 HQ at 1540 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	HEM	GENERAL INFORMATION	REFERENCE
6029 Bone		MS	5	Not given	<15 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; TESTES; THYROID GLANDS; SPLEEN; LYMPH NODES; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; NICKEL; PHOSPHORUS; RUTHENIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ZIRCONIUM; ELEMENTS	Terakata, H. 1981 Archives of Environmental Health 36(4): 155-165
6030 Bone		Polarography	25	a) 10-11.5 ug/g b) 13.1 ug/g c) 10-16.5 ug/g d) 8-110 ug/g	a) 10.8 $\pm$ 5.8 ug/g b) 13.1 $\pm$ 4.2 ug/g c) 15.8 $\pm$ 4.5 ug/g d) Not given	a) Femoral bone, 13 orthopedic patients b) Cortical region of femoral bone, 4 patients c) Trabecular region, same as b) d) 8 Hemodialysis patients receiving Al supplements 32-69 yr old hemodialysis patients, and 46-65 yr old orthopedic patients FRANCE: BLOOD; BONES; MEASUREMENT METHODS; ALUMINUM; METALS	Bernel, D. 1981 Archives of Environmental Health 36(4): 155-165
6031 Heart		MS	a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) 8.0-45 ppm c) 6.0-40 ppm d) Not applicable e) Not applicable Dry wt	a) 11 $\pm$ 7.5 ppm b) 26 ppm c) 10-5 ppm d) 17 ppm e) 2.0 ppm Dry wt	a) Normal healthy men b) Chromium plating workers c) Chromium refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; TESTES; THYROID GLANDS; SPLEEN; LYMPH NODES; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; NICKEL; PHOSPHORUS; RUTHENIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ZIRCONIUM; ELEMENTS	Terakata, H. 1981 Archives of Environmental Health 36(4): 155-165

Aluminum
7429-90-5
Atw 24.98154, MP 660 C, BP 2327 C, VP 1 mm Hg at 1540 C

(CONTINUED)

TYSSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6032 Intestine		ES	10	Not given	26 +3%- 16 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALGION; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; POLYBROMINATED BIPHENYLS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ZINC; ZINC	Tateoka, H. 1981 Archives of Environmental Health 36(4):155-165
6033 Kidney		ES	a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) 14-22 ppm c) 11-35 ppm d) Not applicable e) Not applicable Dry wt	a) 11 +0%- 7.2 ppm b) 18 ppm c) 25 ppm d) 29 ppm e) 16 ppm Dry wt	a) Normal healthy men b) Chromate plating workers c) Chromate refining workers d) Shipyard painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALGION; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; POLYBROMINATED BIPHENYLS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ZINC; ZINC	Tateoka, H. 1981 Archives of Environmental Health 36(4):155-165
6034 Liver		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) 7.5-5.0 ppm c) 7.0-32 ppm d) Not applicable e) Not applicable Dry wt	a) 19 +0%- 12 ppm b) 7.6 ppm c) 29.7 ppm d) 20 ppm e) 130 ppm Dry wt	a) Normal healthy men b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALGION; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; POLYBROMINATED BIPHENYLS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ZINC; ZINC	Tateoka, H. 1981 Archives of Environmental Health 36(4):155-165

(SEE PAGE)

Aluminum
7429-90-5
Al

At 26.9814, MP 660 C, BP 2227 C, VP 1 mm Hg at 1540 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUMMER OF CASES	BIOMONITORING	MEAN	GENERAL INFORMATION	REFERENCE
6035 Liver		ASV LSV	30	1.4-2.6 ug/g Not at	Not given	Category 2 as proposed by monitoring Environmental Monitoring and Health (non-pollutant trace element monitored for "normal" levels) Autopsies, Baltimore, MD, Minneapolis, MN, and Seattle, WA HAWAII: MINNESOTA: WASHINGTON: ALASKA: LIVER: REASUREMENT ATMOSPHERE: LIVER: REASUREMENT FISHING: CADMIUM: CHROMIUM: COBALT: COPPER: FISHING: IRON: LEAD: MANGANESE: MERCURY: MOLYBDENUM: NICKEL: BISMUTH: SELNIUM: SILVER: STRONTIUM: THALLIUM: TIN: VANADIUM: ZINC: POPULATION EXPOSURE	Nathanson, S.H. Sessler, R. 1981 EPA 600/5-81-025, 6 PE.
6036 Lung		ES	a) 12 b) 2 c) 3 d) 1 e) 1	a) Not given b) 270-280 ppm c) 210-240 ppm d) Not applicable e) Not applicable Dry at	a) 230 400-170 ppm b) 275 ppm c) 307 ppm d) 140 ppm e) 2000 ppm Dry at	a) Normal healthy men b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS: ADIP: BONES: HEART: LIVER: LUNG: LUNG: LUNG: LYMPH NODES: PANCREAS: SPLEEN: STOMACH: THYROID GLANDS: THYROID: ALUMINUM: BARIUM: CADMIUM: CALCIUM: CHROMIUM: COPPER: IRON: LEAD: MANGANESE: MERCURY: METALS: MOLYBDENUM: NICKEL: PHOSPHORUS: SILICON: SILICON: SILVER: SODIUM: STRONTIUM: TIN: TITANIUM: VANADIUM: ZINC: BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS: TOXIC: ZIRCONIUM: ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6037 Lymph node		ES	a) 3 b) 1 c) 3 d) 1 e) 1	a) Not given b) Not applicable c) 300-1000 ppm d) Not applicable e) Not applicable Dry at	a) 2000 400-600 ppm b) 500 ppm c) 627 ppm d) 1300 ppm e) 3200 ppm Dry at	a) Normal healthy men b) Chromate plating worker c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS: ADIP: BONES: HEART: LIVER: LUNG: LUNG: LUNG: LYMPH NODES: PANCREAS: SPLEEN: STOMACH: THYROID GLANDS: THYROID: ALUMINUM: BARIUM: CADMIUM: CALCIUM: CHROMIUM: COPPER: IRON: LEAD: MANGANESE: MERCURY: METALS: MOLYBDENUM: NICKEL: PHOSPHORUS: SILICON: SILICON: SILVER: SODIUM: STRONTIUM: TIN: TITANIUM: VANADIUM: ZINC: BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS: TOXIC: ZIRCONIUM: ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

Atw 26.90130, MP 660 C, BP 2327 C, VP 1 mm Hg at 1540 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	BORDER OF CISES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6038 Pancreas		ES	5	Not given	15 +or- 6.2 dry wt	Normal tissue autopsies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZIRCONIUM; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36(4):155-165
6039 Spleen		ES	a) 9 b) 2 c) 1 d) 1 e) 1	a) Not given b) 6-10 ppa c) 10-19 ppa d) Not applicable e) Not applicable Dry wt	a) 22 +or- 18 ppa b) 54 ppa c) 23 ppa d) 52 ppa e) 520 ppa Dry wt	a) Normal healthy man b) Chroastak plating workers c) Chroastak refinishing workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZIRCONIUM; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36(4):155-165
6040 Stomach		ES	10	Not given	26 +or- 16 ppa dry wt	Normal tissue autopsies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZIRCONIUM; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36(4):155-165

(WHITE PAGE)

TISSUE	EXPOSURE ROUTE	AIRWAY METHOD	NUMBER OF CAGES	DIET	WEIGHT	REMARKS	GENERAL INFORMATION	REFERENCE
6041 Thyroid gland		K5	4	Not given	11 ±0.7- 3.3 ppm dry wt		Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LUNG; PANCREAS; SPLEEN; THYROID GLANDS; TRACHEA; STOMACH; TESTIS; UTERUS; VAGINA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICOLOGY; ELEMENTS	Terakoba, R. 1981 Archives of Environmental Health 36 (4) : 155-165
6042 Trachea		K5	2	Not given	3.0 ±0.7- 8.5 ppm dry wt		Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LUNG; PANCREAS; SPLEEN; THYROID GLANDS; TRACHEA; STOMACH; TESTIS; UTERUS; VAGINA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICOLOGY; ELEMENTS	Terakoba, R. 1981 Archives of Environmental Health 36 (4) : 155-165
6043 Trachea		K5	2	Not given	26 ±0.7- 18 ppm dry wt		Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LUNG; PANCREAS; SPLEEN; THYROID GLANDS; TRACHEA; STOMACH; TESTIS; UTERUS; VAGINA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICOLOGY; ELEMENTS	Terakoba, R. 1981 Archives of Environmental Health 36 (4) : 155-165

Anthracene
120-12-7
C14H10
MW 178.22, BP 218 C, RP 342 C, VP 1 mm Hg at 155.0 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
604a Adipose		RPIC	10	Not detected-575 ppt wet wt	270 ppt wet wt	Autopsies 27-66 yr olds, Japan INDUSTRIAL CHEMICALS: JAPAN; ADIPOSE TISSUE: LIVER; POPULATION EXPOSURE	Obasa, K. Sori, S. Kashimoto, T. Kashita, M. 1981 Bulletin of Environmental Contamination and Toxicology 27:23-27
6045 Liver		RPIC	6	110-240 ppt wet wt	173 ppt wet wt	Autopsies 27-66 yr olds, Japan INDUSTRIAL CHEMICALS: JAPAN; ADIPOSE TISSUE: LIVER; POPULATION EXPOSURE	Obasa, K. Sori, S. Kashimoto, T. Kashita, M. 1981 Bulletin of Environmental Contamination and Toxicology 27:23-27

Antimony
7440-36-0
MW 121.75, BP 630 C, RP 1635 C, VP 1 mm Hg at 886 C, 10 mm Hg at 950 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6046 Bone		NA	M 7 M 5	a) <0.02-0.58 ppm b) 0.007-0.1 ppm	a) 0.015 ppm b) 0.007 ppm Medians	a) Exposed group b) Controls Autopsies, Faeur 45-75 yr old factory workers, Sweden. Controls from unpolished areas ANTIBODY: ARSENIC; CADMIUM; COPPER; LEAD; MERCURY; SELENIUM; SILVER; TIN; ZINC: BIOACCUMULATION; INDUSTRIAL ATMOSPHERES; INDUSTRIAL PLANTS; POPULATION EXPOSURE; SKELETON; TISSUE: COMPARTMENTALIZATION; TISSUE: METALS; METALS: OCCUPATIONAL METALS; METALS	Liedh, G. Arane, D. G. Scherky, G. Wastner, P.-O. 1980 Science of the Total Environment 16:109-116
6047 Hair		NA	56	0.05X10 (E-6)-80.69X10 (E-6) g/cu cm	0.57X10 (E-6) g/cu cm	3 cm segments of single hairs Some samples below detection limits IODINE: HAIR; FORENSIC MEDICINE; MEASUREMENT METHODS: ATOMIC SPECTROSCOPY; COPPER; GOLD; LITHIUM; MANGANESE; MERCURY; METALS; SELENIUM; SILVER; SODIUM; STRONTIUM; ZINC: INDUSTRIAL ATMOSPHERES	Dystyanski, B. Boboli, E. 1976 Journal of Medicochemical Chemistry 31:267-289
6048 Hair		NA	54	16-400 ng/g	Not given	Range of means, estimated from graph Areas: El Kharga, Ismail, Cairo, and Alexandria, Egypt EGYPT: HAIR; METALS; METALS: COBALT; CADMIUM; CESIUM; CHROMIUM; COPPER; IRON; MANGANESE; METALS: POLYMER; SCANDIUM; SELENIUM; SILVER; TUNGSTEN; ZINC: DRINKING WATER; POPULATION EXPOSURE; SOILS; URBAN AREAS	Karamat, K. Youssef, G.V. Fakhimoglu, E.E. Fakhish, S. Fakhous, M. 1982 Science of the Total Environment 22:149-168

(NEXT PAGE)

Antimony
7440-36-0

ATF 121.75, BP 630 C, BP 1635 C, VP 1 mm Hg at 866 C, 10 mm Hg at 940 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6049 Hair		MA		a) 0.03-1.63 ppm b) 0.05-0.42 ppm c) 0.02-1.16 ppm	a) 0.16 ±or- 0.21 ppm b) 0.2 ±or- 0.12 ppm c) 0.3 ±or- 0.3 ppm	a) 12 cm length, 102 samples b) Root section, 10 samples c) Distal section, 10 samples Metropolitan Bombay, India INDIA: ADULTS; ADULTS: HAIR; ARTIFICIAL: ADULTS; ADULTS: HAIR; ARTIFICIAL: ADULTS; ADULTS: HAIR; CHLORINE: CHROMIUM: COBALT: COPPER; GOLD: IODINE: IRON: LANTHANUM; MANGANESE: POTASSIUM: SCANDIUM; SILICON: SILVER: SODIUM: ZINC: AIR POLLUTION: BIOACCUMULATION: FOSSIL FUELED POWER PLANTS: INDUSTRIAL AREAS: INDUSTRIAL ATMOSPHERES; INDUSTRIAL EMISSIONS; INDUSTRIAL WASTE: POPULATION EXPOSURE; URBAN AREAS: INDUSTRIAL CHEMICALS	Shat, S.R. Arnachalas, J. Vengasubramanian, S. Gangadharan, S. 1982 Science of the Total Environment 22:169-178
6050 Liver		MA	30	0.01 ug/g wet wt	Not given	Category 2 as proposed by International Workshop on Monitoring Environmental Materials and Specimen Banking (non-pollutant trace element monitored for "normal" levels) Autopsies: Baltimore, MD; Minneapolis, MN, and Seattle, WA MARYLAND: MINNESOTA: WASHINGTON; AUTOPSIES: LIVER: MEASUREMENT METHODS: ALUMINUM: ANTIMONY: ARSENIC; LITHIUM: CHROMIUM: CHROMIUM: COBALT; COPPER: FLUORINE: IRON: LEAD; MANGANESE: MERCURY: MOLYBDENUM; NICKEL: NITROGEN: SILVER: SILVER; SODIUM: SODIUM: VANADIUM; ZINC: POPULATION EXPOSURE	Harrison, S.H. Zelator, E. Wise, S.A. 1981 EPA 600/31-81-025, 6 pp.
6051 Sail		MA	64	260-750 ng/g	Not given	Range of sears, estimated from graph Awan, El Khazqa, Assuit, Cairo, and Alexandria, Egypt EGYPT: HAIR: HAIR: ANTIMONY; ARTIFICIAL: CHROMIUM: COBALT; FROM MARINE: CHROMIUM: COBALT; SCANDIUM: SILVER: SILVER: TUNGSTEN; ZINC: DRINKING WATER: POPULATION EXPOSURE: SOILS: URBAN AREAS	Kasparek, E. Iyengar, G.V. Folnendegen, L.E. Rahish, S. Makous, M. 1982 Science of the Total Environment 22:149-168

Alcohol 1248

12672-29-6

Exact composition unknown or undetermined

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6052 Adipose		GC	26	a) 5-234 ppm b) 2-271 ppm	a) 36 ppm b) 24 ppm Median	a) Packed column gas chromatography. Sum of peak areas b) High resolution gas chromatography, sum of individual peaks c) Total of peaks with retention time less than P.P'-DDE ACIPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Welf, M.S. Thornton, J. Fischbein, A. Sullivan, P. Sallhoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

(NEXT PAGE)

Acrochlor 1248

12672-25-6

Exact composition unknown or undetermined

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6053 Blood, plasma		GC	26	a) 18-1362 ppb b) 2-1412 ppb	a) 145 ppb b) 83 ppb Median	a) Packed column gas chromatography, sum of peak areas b) High resolution gas chromatography, sum of individual peaks Total of peaks with retention time less than P,p'-DDE ADIPOSE TISSUE: BLOOD PLASMA: POLYCHLORINATED BIPHENYLS: OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

Acrochlor 1254

11097-69-1

Exact composition unknown or undetermined

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6054 Adipose		GC	26	a) 2-54 ppm b) 0.2-19 ppm	a) 14 ppm b) 6 ppm Median	a) Packed column gas chromatography, sum of peak areas b) High resolution gas chromatography, sum of individual peaks Sum of peaks with retention time greater than P,p'-DDE Capacitor manufacture workers. 1976 Clinical health survey ADIPOSE TISSUE: BLOOD PLASMA: POLYCHLORINATED BIPHENYLS: OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6055 Blood, plasma		GC	26	a) 1-160 ppb b) 1-60 ppb	a) 73 ppb b) 19 ppb Median	a) Packed column gas chromatography, sum of peak areas b) High resolution gas chromatography, sum of individual peaks Sum of peaks with retention time greater than P,p'-DDE Capacitor manufacture workers. 1976 Clinical health survey ADIPOSE TISSUE: BLOOD PLASMA: POLYCHLORINATED BIPHENYLS: OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
60% Urine	Ingestion	AAS	a) 3 b) 5	a) Not given b) Not given	a) 253.9 ug b) 272.5 ug	a) a day output after 500 ug dose (25% inorganic arsenic, 31.3% monomethylarsenate and 53.7% dimethylarsinate) b) a day output after 500 ug dose (after treatment with lipotropic agents) (22.6% inorganic arsenic, 14.5% monomethylarsenate, and 62.9% dimethylarsinate)	Buckel, J.P. Leachman, R. Reed, R. 1961 International Archives of Occupational and Environmental Health 48:71-79
					Healthy 27-42 yr olds	ADULTS: URINE: COMPARATIVE EVALUATIONS; ARSENIC; ARSENIC ORGANIC COMPOUNDS; METABOLITES	

Arsonic
7440-38-2

AN 78,9216, mp 817 C at 2.8 atm, bp 613 C (sublimes), vp 1 mm Hg at 360 C, 10 mm Hg at 440 C.

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6057 Blood	Ingestion		a) 1 b) 1 c) 1	a) 447-7 ug/l b) 785-7 ug/l c) 190-7 ug/l	a) Not given b) Not given c) Not given	a) 44 yr old man, 1 and 25 days after b) 40 yr old woman, 1 and 17 days after >1000 mg c) 11 yr old girl, 1 and 7 days after >1000 mg Accidents mistakenly made with As ₂ O ₃ FAL, 2.5-3 mg/kg is given every 8 hr for 21 days (a), 17 days (b), and 9 days (c) Members of same family Diarrhea, dehydration, renal insufficiency, shock, delayed neuropathy ACUTE: CASE HISTORIES: CHILDREN; BLOOD: CEREROSTIGMATIC; URINE; ARSENIC: FOOD CONTAMINATION; METABOLISM: METABOLITES	Naklou, P. Bucht, J.P. Reel, M.A. Lauwerys, R. 1981 Clinical Toxicology 18(9): 1067-1075
6058 Bone	NA		a) 7 b) 5	a) 0.006-0.21 ppm b) 0.005-0.007 ppm	a) 0.014 ppm b) Not given Median	a) Exposed group b) Controls Autopsies, fever 85-75 yr old factory workers, Sweden. Controls from unpolluted area. ANTIMONY: ARSENIC: CADMIUM: COPPER: LEAD: MERCURY: SELENIUM: SILVER: TIN; ZINC: BIOACCUMULATION: INDUSTRIAL ATMOSPHERES: INDUSTRIAL PLANTS; POPULATION EXPOSURE: SHELTERS: BONES; FEMUR: COMPARATIVE EVALUATIONS; SWEDEN: AUTOPSIES: OCCUPATIONAL HAZARDS: METALS	Lindh, G. Brune, O. Nordberg, G. Wester, P.-O. 1980 Science of the Total Environment 16:109-116

(NEXT PAGE)

(NEXT PAGE)

Atomic
7440-38-2

bp 74.9-76.2°C, mp 0.7°C at 20 atm, bp 63°C (sublimes), vp 1 mm Hg at 30°C, 10 mm Hg at 440°C (constant).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6059 Cerebrospinal fluid	Ingestion		1	Not applicable	180 ug/l	8 days after eating pudding mistakenly made with As2O3. Intake >1000 ug EAL, 2.5-4 ug/kg in given every 8 hr as 7r old Diarrhea, dehydration, renal insufficiency, shock, delayed neurophy ADULTS: CASE HISTORIES: CHILDREN: NICOT: CEREBROSPINAL FLUID; URINE; ARSENIC: FOOD CONTAMINATION; METABOLISM; METABOLITES	Mahieu, P. Suehet, J.P. Boole, R.A. Lauvry, R. 1981 Clinical Toxicology 16(9):1067-1075
6060 Hair		HA	57	37.4-48.3 ug/g	44.5 ug/g	Range of means, 5 localities Residents of Iceland ADULTS: HAIR: ARSENIC; CADMIUM; MERCURY; METALS; SILENIUM; ZINC	Johannesson, T. Lunde, G. Steinnes, E. 1981 Acta Pharmacologica et Toxicologica 48:185-189
6061 Hair	Ingestion			a) 0.03-0.15 ug/g b) 0.01-0.40 ug/g	a) Not applicable b) Not given	a) Current levels for head, pubic and axillary hair exposed to arsenic b) Developed hyperkeratosis in 1951 (1 subject) c) Forensic CASE HISTORIES: NEOPLASMS: SKIN DISEASES: HAIR: SKIN: ARSENIC; METALS	Penwick, J.W. Harrington, J.R. Salmon, R.A. Simsaake, D.S. Lennihan, J.R.A. 1981 Journal of the Society of Occupational Medicine 31:144-147
6062 Hair	Ingestion	HA	3	a) 9.22-30.4 ppm b) 11.1-18.1 ppm c) 2.2-80 ppm d) 0.3-3N ppm	a) Not given b) Not given c) Not given d) Not given	a) 5 head hairs of Caroline Knaparte, 1.3-2.1 cm long, cut October 16, 1916 b) Sequential (3 mm) analysis of one hair from a). Indicates consistently high exposure over period of growth (2 mo) c) Sequential (3 mm) analysis of 60 mm hair from habitual use: of arsen-containing tonic analysis of 39 mm hair from attempted suicide Reports of deteriorating health of Knaparte consistent with chronic ingestion ADULTS: SUICIDE: METAL POISONING; HAIR: CONFIRMATION; SKIN; CHRONIC; FORENSIC MEDICINE; ARSENIC; METALS	Lennie, A.C.D. Smith, R. 1978 Archives of Toxicology 41:163-167
6063 Hair		HA	6	0.03X10 (E-6)-12.97X10 (E-6) g/cu cm	0.8X10 (E-6) g/cu cm	3 cm segments of single hairs Some samples below detection limits TRIDIUM: HAIR: FORENSIC MEDICINE; MEASUREMENT METHODS: RITINOT; ARSENIC; BROMINE; COPPER; GOLD; LITHIUM; MERCURY; METALS; METALS; SILVER; SILVER; SODIUM; STRONTIUM; ZINC; INDUSTRIAL ATMOSPHERES	Dybczynski, R. Boboli, E. 1976 Journal of Radioanalytical Chemistry 31:267-269

SECRET (PAGE)

Arsenic
 140-58-2
 ATW 74, 9216, BP 817 C at 28 atm, BP 613 C (sublimed), WP 1 atm Hg at 300 C, 10 mm Hg at 400 C
 (CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6064 Hair		HA		a) 0.01-0.89 ppa b) 0.01-0.55 ppa c) 0.01-0.97 ppa d) 0.01-0.63 ppa	a) 0.10 $\pm$ 0.13 ppa b) 0.13 $\pm$ 0.18 ppa c) 0.26 $\pm$ 0.34 ppa d) 0.11 $\pm$ 0.17 ppa	a) 12 cm length, 89 samples b) Root section, 18 samples c) Distal section, 18 samples d) Students in a), 27 samples High levels in people near chemical industry. Metropolitan Bombay, India INDIA: ADOLESCENTS: ADULTS: HAIR: ARTISAN: ARSENIC: BROMINE: CADMIUM: CELESTINE: CERIUM: COBALT: COPPER: GOLD: IODINE: IRON: LANTHANUM: MANGANESE: POTASSIUM: SCANDIUM: SILVER: SODIUM: TUNGSTEN: ZINC: AIR SILICA: FUELS: FERTILIZERS: FOSFIL FUELS: POWER PLANTS: INDUSTRIAL WASTE: INDUSTRIAL ATMOSPHERE: INDUSTRIAL EMISSIONS: INDUSTRIAL POLLUTION: POPULATION EXPOSURE: URBAN AREAS: INDUSTRIAL CHEMICALS	Shat, K.B. Arusachalas, J. Vegasebramian, S. Gandhadharas, S. 1982 Science of the Total Environment 22:169-178
6065 Liver		HA	30	0.006-0.46 ug/g Not at	Not given	Category 1 (first priority element) as proposed by the National Group on Monitoring Environmental Materials and Species Ranking Autogies, Baltimore, MD. Pineapple, MA, and Seattle, WA PARTLAND: MINNESOTA: WASHINGTON: MICHIGAN: ILLINOIS: MASSACHUSETTS: MONTANA: CALIFORNIA: ARIZONA: ARSENIC: LITHIUM: CERIUM: COBALT: COPPER: GOLD: IODINE: IRON: LANTHANUM: MANGANESE: MERCURY: MOLYBDENUM: NICKEL: RUBIDIUM: SELENIUM: SILVER: SODIUM: THALLIUM: TIN: VANADIUM: ZINC: POPULATION EXPOSURE	Harrison, S.H. Kaiser, A. Wong, S.A. 1984 EPA 600/S1-81-025, 6 PE.
6066 Skin	Ingestion			a) Not applicable b) Not applicable c) Not applicable d) 0.002-0.054 ug/g	a) 0.19 ug/g b) 0.01 ug/g c) 0.002 ug/g d) Not given	a) 1965 b) 1976 c) 1976 d) Normal Levels by year in skin lesions of individual exposed in 1943 to contaminated food CASE HISTORIES: NEPHROSIS: SKIN DISEASES: HAIR: SKIN: ARSENIC: METALS	Sevick, J.H. Harrison, J.H. Waldron, R.A. Lissanake, D.S. Lemhan, J.H.A. 1981 Journal of the Society of Occupational Medicine 31:144-147

(NEXT PAGE)

Arsenic
7400-30-2
As
EC 74.9216, BP 817 C at 20 atp, BP 613 C (sublimed), VP 1 mg Hg at 180 C, 10 mg Hg at 440 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6067 Urine	Ingestion		a) 1 b) 1 c) 1	a) Not applicable b) Not applicable c) Not applicable	a) 129 mg b) 73 mg c) 24 mg	a) 48 yr old man, 26 day total after >1000 mg, 10 mg/24 hr day 3-7 b) 40 yr old woman, 3 week total after >1000 mg, 16.7 mg/24 hr day 1 c) 11 yr old girl, 8 day total after >500 mg, 9 mg/24 hr on day 1 ate pudding mistakenly made with As2O3 FAL, 2.5-8 mg/kg Hg given every 8 hr for 4 days (a), 17 days (b), and 5 days (c) primarily inorganic As excreted day 2-4, followed by progressive increase in organic metabolites to >95% after day 9 members of same family diarrhea, dehydration, renal insufficiency, shock, delayed neutropathy ACUTES: CASE HISTORIES: CHILDREN: BLOOD: CEREBROSPINAL FLUID: URINE: ARSENIC: FOOD CONTAMINATION: METABOLISM: METABOLITES	Hablen, P. Buckel, J.P. Rehm, H.A. Leuveny, H. 1981 Clinical Toxicology 18(9):1067-1075
6068 Urine		MS		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 198 ug/L b) 197 ug/L c) 191 ug/L d) 172 ug/L e) 172 ug/L f) 153 ug/L g) 124 ug/L h) 108 ug/L i) 101 ug/L	a) 1970 b) 1971 c) 1972 d) 1973 e) 1974 f) 1975 g) 1976 h) 1977 i) 1978 Employee-weighted annual mean Exposure control program begun 1975-77 Time-weighted averages for full shift, breathing zone air, nondetectable-5310 ug/cu m (mean 154 ug/cu m) Employees, Cu smelter and As-trioxide production facility URINE: ARSENIC: AIR POLLUTION: INDUSTRIAL AREAS: INDUSTRIAL ATMOSPHERES: INDUSTRIAL EMISSIONS: INDUSTRIAL POLLUTION: SMELTERS	Cent, S.M. Legrande, L.A. 1981 American Industrial Hygiene Association Journal 43:223-224

Arsenic oxide (As₂O₃)
 127-53-3
 As₂O₃
 MW 197.82, MP 313 C (claudette), 275 C (arsenolite)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6069 Blood, whole	Ingestion		1	7-2 ug/dl	Not applicable	5 and 18-5 hr after accidental ingestion of 9-16 mg. Chelation therapy initiated 5 hr after exposure. 16 mo old Initial symptoms: vomiting, diarrhea, sinus tachycardia CASE HISTORIES: CHILDREN: METAL POISONING; BLOOD: URINE: DRUG THERAPY: ARSENIC; INSECTICIDES; HEALTH HAZARDS	Watson, W.D., Valtri, J.C., Metcalfe, T.J., 1981 Veterinary and Human Toxicology 23(3):168-166
6070 Urine	Ingestion		1	560-40 ug/l	Not applicable	About 18 hr and 6 days after accidental ingestion of 9-16 mg. Chelation therapy initiated 5 hr after exposure. 16 mo old Initial symptoms: vomiting, diarrhea, sinus tachycardia CASE HISTORIES: CHILDREN: METAL POISONING; BLOOD: URINE: DRUG THERAPY: ARSENIC; INSECTICIDES; HEALTH HAZARDS	Watson, W.D., Valtri, J.C., Metcalfe, T.J., 1981 Veterinary and Human Toxicology 23(3):168-166

Azine oxide, hydroxydimethyl-, sodium salt (8 CI)
 Arsenic acid, diethyl-, sodium salt (9 CI)
 124-65-2
 C₂H₇-As-O₂-Na
 MW 216.02, MP 82-86 C, also reported as 60 C and 200 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6071 Urine	Ingestion	AAS	4	Not given	375.7 ug	0-96 hr total output, after 500 ug dose. (8) Inorganic arsenic, (9) dimethylarsenate, and 100% diethylarsinate Healthy 27-42 yr olds ADULTS: URINE: COMPARATIVE EVALUATIONS: ARSENIC; ARSENIC ORGANIC COMPOUNDS: METABOLITES	Duchet, J.P., Lauevry, E., Roels, H., 1981 International Archives of Occupational and Environmental Health 48:71-79

Asbestos
132-21-a
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6072 Lung	Inhalation	Microscopy	135	a) 1-5 asbestos bodies/1.5 cu cm b) 6-10 asbestos bodies/1.5 cu cm c) 11-20 asbestos bodies/1.5 cu cm d) 21-30 asbestos bodies/1.5 cu cm	a) Not given b) Not given c) Not given d) Not given	a) 62 men and 45 women b) 11 men and 5 women c) 8 men and 2 women d) 10 men and 2 women Number of positive samples for 216 men and 178 women. Occurrence of positive cases related to occupation, industry, and area of residence. Positive association with carcinoma of stomach and breast, but not bronchus Nonoccupationally exposed residents of East London UNITED KINGDOM: ADULTS: AGE: AUTOPSIES: SEX: CARCINOMAS: LUNGS; ASBESTOS: FIBERS: HEALTH HAZARDS; INDUSTRIAL AREAS: POPULATION EXPOSURE: SMOKING; URBAN AREAS	Donsieb, I. Swettenham, K.V. Mathers, R.K.S. 1975 British Journal of Industrial Medicine 32:116-30
6073 Lung		EM	a) 6 b) 6 c) 6	a) 6.8x10 (E+4)-4.3x10 (E+6) fibers/cu cm b) 320-7800 fibers/cu cm c) 34-140 fibers/cu cm	a) 2x10 (E+6) fibers/cu cm b) 2000 fibers/cu cm c) 100 fibers/cu cm	a) Asbestos workers with heavy exposure (0.5-36 yr). 25-250 coated fibers per pleural plaque (5 of 6) b) Asbestos workers with light exposure (10-37 yr). 0-20 coated fibers per pleural plaque (5 of 6) c) Controls, no known exposure, 0-8 coated fibers per pleural plaque (1 of 6) Autopsies 30-73 yr old residents of Le Havre, France ADULTS: AUTOPSIES: OCCUPATIONAL DISEASES: LUNGS; ASBESTOS: FIBERS; OCCUPATIONAL HAZARDS	Sebastien, P. Fondisane, A. Bignon, J. Rochaud, G. Desbordes, J. Scnaud, G. 1977 Inhaled Particles IV, S.H. Walton, (ed.), Pergamon Press, 435-445
6074 Lung	Inhalation		a) 2 b) 2 c) 2 d) 2 e) 1 f) 5 g) 9	a) 0.1-4 ferruginous bodies/ml b) 11-17.5 ferruginous bodies/ml c) 0.3-11 ferruginous bodies/ml d) 0-645 ferruginous bodies/ml e) 20,000 ferruginous bodies/ml f) 0.2-10,493 ferruginous bodies/ml g) 0 ferruginous bodies/ml	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) Occasional asbestos workers b) Automobile workers c) Asbestos cement plant workers d) Asbestos vermiculite plant workers e) Asbestos workers f) Isolation workers g) Controls Specimens obtained by bronchoalveolar lavage a)-f) had suspected or confirmed asbestosis. 0-28 yr since last of 4-30 yr exposure. 33-60 yr olds, occupationally exposed to asbestos. Controls, 20-65 yr old volunteers. (a) Asbestosis with no bronchopulmonary disease (5) Number of alveolar macrophages decreased and proportion of phagocytized asbestos increased with high lung asbestos content. Macrophages in exposed subjects had greater lectin dehydrogenase and lysosomal enzyme activities than did controls. ADULTS: OCCUPATIONAL DISEASES: LUNGS; INDUSTRIAL MEDICINE: LAVAGE; ASBESTOS: AUTOMOTIVE; FIBERS: HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Jaurand, R.C. Lestak, A. Sebastien, P. Bignon, J. 1980 Bulletin European de Physiopathologie Respiratoire 16:595-606

(NEXT PAGE)

EXACT COMP

EXACT COMPOSITION UNKNOWN CR UNDETERMINED

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAS.	GENERAL INFORMATION	REFERENCE
6075 Respiratory secretion			176 workers 76 controls	a) 30+ ferruginous bodies b) 15-30 ferruginous bodies c) 1-4 ferruginous bodies d) 3 ferruginous bodies	a) Not given b) Not given c) Not given d) Not given	a) 35% of workers with 5-<16 yr exposure, 28% of workers with 1-<5 yr exposure, 3% of workers with <1 yr exposure, and 0% of controls b) 17% of workers with 5-<16 yr exposure, 19% of workers with 1-<5 yr exposure, 8% of workers with <1 yr exposure, and 0% of controls c) 24% of workers with 5-<16 yr exposure, 68% of workers with 1-<5 yr exposure, 29% of workers with <1 yr exposure, 0% of controls d) 28% of workers with 5-<16 yr exposure, 12% of workers with 1-<5 yr exposure, 64% of workers with <1 yr exposure, and 100% of controls Former asbestos workers (all men). Healthy volunteers with no known asbestos exposure, 71 per cent.	Wash, D.P. Portman, H.G. McLarty, J.M. Hurst, G.A. 1991 Journal of Toxicology and Environmental Health 7:733-744
						Isosuglobulin A, cellular atypia, x-ray abnormalities, rales, and pulmonary restriction were significantly different between workers and controls. TEARS: ADULTS: INDUSTRIAL DISEASES: INDUSTRIAL DISEASES: INDUSTRIAL DISEASES: IMMUNIZATION: OCCUPATIONAL HEARDS: RESPIRATORY SECRETIONS	

Page
7440-39-3

1-800-368-0808

at 137.34, BP 710 C (approx), VP 1600 C (approx), VP 10 mm Hg at 1049 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6076 Adrenal gland		ES	7	Not given	<1.3 ppm dry wt	Necral tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADBFEMAL GLANDS: AGCTA: BONES: HEART: INTESTINES: KIDNEYS: LIVER: LONGS: LYMPH NODES: PANCREAS: SPLEEN: THYROID GLANDS: TRACHEA: ADRENAL GLANDS: COLORECTUM: CECUM: CECUM: COLORECTUM: LEAD: MAGNESIUM: MANGANESE: SPIRALS: POLYMERIN: NICKEL: PHOSPHORUS: POTASSIUM: SILICON: SILVER: SODIUM: STRONTIUM: TIN: TITANIUM: VANADIUM: ZINC HEALTH ACCUMULATION: HEALTH STATUS: OCCUPATIONAL HAZARDS: TONGUE: ZINCOLITH: REPORTS	Teraoka, H. 1991 Archives of Environmental Health 36(4):155-163

atw 137.36, BP 710 C (approx), SP 1600 C (approx), VP 10 mm Hg at 1049 C

(Continued)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	SAMPLE	REMARK	GENERAL INFORMATION	REFERENCE
6077 Aorta		ES	7	Not given	<1.3 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES: AORTAL GLANDS; AORTA; BONES; HEART; LUNGS; TESTES; KIDNEYS; LIVER; SPLEEN; THYMUS; PANCREAS; SPLEEN; THYROID GLANDS; TRACHEA; UTERUS; VAGINA; CERVIX; CALCIVIA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; RETALS; RUTHENIUM; SICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TUNGSTEN; VANADIUM; ZINC; BIOACCUMULATION; RESIDUES; METALS; OCCUPATIONAL HAZARDS; TOXICITY; ELIMINATION; ELEMENTS	Tateoka, H. 1981 Archives of Environmental Health 36(4):155-165
6078 Bone		ES	5	Not given	<15 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES: AORTAL GLANDS; AORTA; BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; RETALS; RUTHENIUM; SICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TUNGSTEN; VANADIUM; ZINC; BIOACCUMULATION; RESIDUES; METALS; OCCUPATIONAL HAZARDS; TOXICITY; ELIMINATION; ELEMENTS	Tateoka, H. 1981 Archives of Environmental Health 36(4):155-165
6079 Bone		ES	a) 1 b) 1 c) 1 d) 1 e) 1 f) 1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable	a) .12 ppm b) .11 ppm c) 1.9 ppm d) 2.2 ppm e) 1.6 ppm f) 0.85 ppm Dry wt	a) Mandible, Masaka Fezra site, recently exposed, pre-osteal pre-metallic site, date 4300-5000 yr BP b) Femur, Gassara cemetery, specimens exposed on surface 30 yr, post-osteal, proto-metalurgical, date 3000-2500 yr BP c) Mandible, Masaka Galliano site, metallurgical, date 2000-1800 yr BP d) Mandible, another person, site c) e) Vaginal, another person, site c) f) Vaginal, mummy of healthy female Egyptian, Ptolemaic period, 2100 yr BP Ratio of Ba to Ca 2-X10 ⁻⁶ in bones of ancient Egyptians and present-day Americans Specimens from Wadi Valley, Feroz and Egypt EGYPT; PREHISTORIC PERIOD; UNITED STATES; BONES; TESTES; BARIUM; CALCIUM; LEAD; BIOACCUMULATION	Ricoeur, J.E. Shickler, E. Patterson, C.C. 1979 New England Journal of Medicine 300(17):946-951

UNIT PAGE

Perlu
7440-39-3

137.34. BP 710 C (approx), MP 1600 C (approx), VP 10 mm Hg at 1049 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6080 Heart		ES	8 a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) <1.3- $\bar{c}$ 1.3 ppm c) <1.3- $\bar{c}$ 1.3 ppm d) Not applicable e) Not applicable Dry wt	a) <1.3 ppm b) <1.3 ppm c) <1.3 ppm d) <1.3 ppm e) <1.3 ppm Dry wt	Normal healthy men Chromate plating workers Chromate refining workers Airplane painter Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MERCURY; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXIC; ZIPCONIUM; ELEMENTS	Tsutsuka, H. 1981 Archives of Environmental Health 36(4):155-165
6081 Intestine		ES	10	Not given	<1.3 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MERCURY; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXIC; ZIPCONIUM; ELEMENTS	Tsutsuka, H. 1981 Archives of Environmental Health 36(4):155-165
6082 Kidney		ES	9 a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) <1.3- $\bar{c}$ 1.3 ppm c) <1.3- $\bar{c}$ 1.3 ppm d) Not applicable e) Not applicable Dry wt	a) <1.3 ppm b) <1.3 ppm c) <1.3 ppm d) <1.3 ppm e) <1.3 ppm Dry wt	Normal healthy men Chromate plating workers Chromate refining workers Airplane painter Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MERCURY; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXIC; ZIPCONIUM; ELEMENTS	Tsutsuka, H. 1981 Archives of Environmental Health 36(4):155-165

--- (NEXT PAGE) ---

Section
740-39-3
ATW 137.3a, HP 710 C (approx), BP 1600 C (approx), VP 10 mg Hg at 1049 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6083 Liver		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) <1.3-1.3 ppm c) <1.3-1.3 ppm d) Not applicable e) Not applicable Dry wt	a) <1.3 ppm b) <1.3 ppm c) Not given d) <1.3 ppm e) 1.6 ppm Dry wt	a) Normal healthy men b) Chromium plating workers c) Chromium refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; BOWLS; BONES; HEART; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; ZYTOCHROMAL HAZARDS; HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; LIVER; ELEMENTS	Tateoka, H. 1981 Archives of Environmental Health 36(4): 155-165
6084 Liver			30	0.01 ug/g Wet wt	Not given	Category 3 as proposed by International Workshop on Environmental Health and Disease (trace element of environmental importance not included in first priority list) Autopsies, Baltimore, MD, Minneapolis, MN, and Seattle, WA MARYLAND: MINNESOTA: WASHINGTON: AUTOPSIES: LIVER; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; POPULATION EXPOSURE	Harrison, S.H. Zeller, R. Wise, S.A. 1981 HPA 600/ST-81-025, 6 PE.
6085 Lung		ES	a) 12 b) 2 c) 3 d) 1 e) 1	a) Not given b) <1.3-1.5 ppm c) 1.7-2.6 ppm d) Not applicable e) Not applicable Dry wt	a) 1.6 + or - 0.37 ppm b) Not given c) 2.3 ppm d) 2.3 ppm e) 1.1 ppm Dry wt	a) Normal healthy men b) Chromium plating workers c) Chromium refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; BOWLS; BONES; HEART; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; OCCUPATIONAL HAZARDS; HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; LIVER; ELEMENTS	Tateoka, H. 1981 Archives of Environmental Health 36(4): 55-165

(LEFT PAGE)

Series
7440-39-3
SA
Atk 137.34, MP 710 C (approx), MP 1600 C (approx), VP 10 mm Hg at 1949 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	BIOMG	MEAN	GENERAL INFORMATION	REFERENCE
6086 Lymph node		MS	a) 3 b) 1 c) 3 d) 1 e) 1	a) Not given b) Not applicable c) 2.0-5.8 ppm d) Not applicable e) Not applicable Dry wt	a) 18-20x-6.7 ppm b) 2.5 ppm c) 4.2 ppm d) 6 ppm e) 27 ppm Dry wt	a) Normal healthy men b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; UTERUS; VAGINA; VULVA; TESTES; THYROID GLANDS; TRACHEA; ALBUMEN; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; RETALS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TISSUE; ZINC; ZINC; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6087 Pancreas		MS	5	Not given	<1.3 ppm dry wt	a) Normal healthy men Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LUNGS; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALBUMEN; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; RETALS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TISSUE; ZINC; ZINC; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6088 Spleen		MS	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) <1.3-1.3 ppm c) <1.3-1.3 ppm d) Not applicable e) Not applicable Dry wt	a) <1.3 ppm b) <1.3 ppm c) <1.3 ppm d) 1.8 ppm e) 3.3 ppm Dry wt	a) Normal healthy men b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALBUMEN; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; RETALS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TISSUE; ZINC; ZINC; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(SEE PAGE)

At 137.38, BP 710 C (approx), at 1600 C (approx), at 1890 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6089 Stomach		ES	10	Not given	<1.3 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; BLADDER; LIVERSTOMACH; KIDNEYS; LUNG; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; UTERUS; Vagina; VULVA; CLUTIA; CERVIX; COBLT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; POLYDROM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICOLOGY; ZINCURION; ELISRETS	Terada, N. 1981 Archives of Environmental Health 36(4):155-165
6090 Teeth		MS	a) 1 b) 1 c) 1 d) 1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 1.7 ppm b) 2.9 ppm c) 1.5 ppm d) 3.1 ppm Dry wt	a) Naica Negra site, recently exposed, pre-eruptive, date 8500-3000 yr before present (bp) b) Glauco cemetery, specimens exposed on surface 30 Yr. post-eruptive, proto-metalurgical, date 3000-2500 yr bp c) Naica Galliano site, metalurgical, date 2000-1400 yr bp d) Another person, site c) Faecal Specimens from Viru Valley, Peru ECUADOR: PERU: UNITED KINGDOM: UNITED STATES: BONES; TEETH; BARIUM; CALCIUM; LEAD; BIOACCUMULATION	Piccolo, J.E. Patterson, R. Patterson, C.C. 1979 New England Journal of Medicine 300(17):946-951
6091 Thyroid gland		ES	8	Not given	<1.3 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; BLADDER; LIVERSTOMACH; KIDNEYS; LUNG; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; UTERUS; Vagina; VULVA; CLUTIA; CERVIX; COBLT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; POLYDROM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICOLOGY; ZINCURION; ELISRETS	Terada, N. 1981 Archives of Environmental Health 36(4):155-165

----- PAGE -----

Personne
71-43-2
C6-H6

NW 78.11, NP 5.51 C, BP 80.093-80.094 C, WP 10 na Hg at 26.1 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6096 Blood		GC	6	a) Not applicable b) 1.14-1.48 ug/l c) Not applicable d) < 0.35-0.42 *or- 0.07 ug/l e) Not applicable f) Not applicable g) Not applicable h) Not applicable	a) 0.1 ug/l b) Not given c) 186.8 *or- 1.8 ug/l d) Not given e) 0.20 *or- 0.06 ug/l f) < 0.34 ug/l g) 1.30 *or- 0.34 ug/l h) 1.93 *or- 0.12 ug/l S.E.	a) Laboratory worker, non-smoker, workday measurement, air level 8.2 ug/cu m b) 2 filling station attendants, smokers, workday measurement, air level 190-240 ug/cu m c) Filling station attendant, smoker, workday measurement, air level 153 ug/cu m d) Non-workday measurement b) plus c), air levels 1.8-13 ug/cu m e) Filling station attendant, non-smoker, workday measurement of e), air level 13 ug/cu m f) Non-workday measurement of e), air level 54 ug/cu m g) Gasoline tanker driver, workday, workday measurement, air level 54 ug/cu m h) Non-workday measurement of e), air level 85 ug/cu m EPATH: INDUSTRIAL CHEMICALS: MISSOURI: TEXAS: AGE: SEX: BLOOD: URINE: BERNERS: DENTS: DRINKING WATER: GASOLINE: INDUSTRIAL EMISSIONS: OCCUPATIONAL HAZARDS: POPULATION EXPOSURE: SMOKING	Zeldinger, R.A., Cooper, S.D., Harris, B.S.M., III, Hartwell, T.B., Pelton, R.E., Jr., Pellmar, E.D., Seldinger, R.A., Wong, T.S., Zelon, R.S., 1980 EPA 560/13-80-028, 194 PP.
6097 Breath		GC/MS	26	2.4-7.5 ug/l	4 ug/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 18 days before and during study to minimize number and amount of exogenous constituents. AGENTS: BPHATH: ALCOHOLS: CHLORINE ORGANIC CONTAMINANTS: CHLOROPHYLLS	Krotoszynski, B., Gabriel, G., O'Neill, R., Claudio, R.P.A., 1977 Journal of Chromatographic Science 15:239-244
6098 Breath		Spirometer	117	a) 1-26 ug/cu m b) 0-14 ug/cu m c) 1.1-18 ug/cu m d) 2.2-26 ug/cu m e) 0-14 ug/cu m f) 0-9 ug/cu m	a) 8.5 *or- 1.5 ug/cu m b) 2.9 *or- 0.48 ug/cu m c) 6.33 ug/cu m d) 8.76 ug/cu m e) 3.16 ug/cu m f) 3.11 ug/cu m S.E.	a) 68 St. Louis, MO residents, air levels 3-125 ug/cu m, mean 26.8 ug/cu m b) 49 Houston, TX residents, air levels 2-85 ug/cu m, mean 16.1 ug/cu m c) 39 St. Louis, MO residents, air levels < 20 ug/cu m d) 11 St. Louis, MO residents, air levels > 20 ug/cu m e) 10 Houston, TX residents, air levels < 20 ug/cu m f) 11 Houston, TX residents, air levels > 20 ug/cu m Air sampled in individual homes Breath samples 60 l or 15 min Breathing time Not related to age, race, habits, health, diet, drinking water source, food source, age, wt, ht, yr at present address Healthy, 20-50 yr old nonsmokers, nonoccupationally exposed MISSOURI: TEXAS: AGE: SEX: BLOOD: URINE: BERNERS: DENTS: DRINKING WATER: GASOLINE: INDUSTRIAL EMISSIONS: OCCUPATIONAL HAZARDS: POPULATION EXPOSURE: SMOKING: BREATH: INDUSTRIAL CHEMICALS	Zeldinger, R.A., Cooper, S.D., Harris, B.S.M., III, Hartwell, T.B., Pelton, R.E., Jr., Pellmar, E.D., Seldinger, R.A., Wong, T.S., Zelon, R.S., 1980 EPA 560/13-80-028, 194 PP.

(NEXT PAGE)

Benzene
1-83-2
C-6
MW 78.11, VP 5.51 C, BP 80.093-80.098 C, VP 10 mm Hg at 26.1 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6099 Breath		Spicrometer	9	a) 1.1-3.7 ug/cu m b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) 6.8-15.0 ug/cu m h) Not applicable i) Not applicable	a) Not given b) 9.3 ug/cu m c) 7.2 ug/cu m d) 1.3 ug/cu m e) Not given f) Not given g) Not given h) 19 ug/cu m i) 58 ug/cu m j) 28 ug/cu m	a) 2 laboratory workers, non-smokers, workday measurement, air level 8.2 ug/cu m b) 1 laboratory worker, smoker, workday measurement, air level 8.2 ug/cu m c) Filling station attendant, non-smoker, workday measurement d) Non-workday measurement of c), air level 13 ug/cu m e) 2 filling station attendants, smokers, workday measurement, air level 190-260 ug/cu m f) Filling station attendant, smoker, direct contact with gasoline, workday measurement, air level 193 ug/cu m g) Non-workday measurements a) plus f), air levels 1.8-13 ug/cu m h) Ship worker, smoker, workday measurement, air level 8.2 ug/cu m i) Gasoline tanker driver, non-smoker, workday measurement, air level 54 ug/cu m j) Non-workday measurement of i), air level 85 ug/cu m EMPATH: INDUSTRIAL CHEMICALS; MISSOURI: TEXAS: AGE: SEX: BLOOD: URINE: BENZENE: DIETS: DRINKING WATER: GASOLINE: INDUSTRIAL EMISSIONS: OCCUPATIONAL HAZARDS: POPULATION EXPOSURE: SMOKING	Zeldinger, R.A. Cooper, S.D. Harris, B.S.H., III Hartwell, T.D. Folson, R.E., Jr. Pellizzari, E.D. Sherdon, A.W. Zelon, R.S. PPA 560/13-80-028, 198 pp.
6100 Urine			3	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable	a) 0.72 +or- 0.14 ug/l b) 0.93 +or- 0.14 ug/l c) 0.41 +or- 0 ug/l d) 2.4 +or- 0.4 ug/l e) 1.6 +or- 0 ug/l S.E.	a) Laboratory worker, non-smoker, workday measurement, air level 8.2 ug/cu m b) Filling station attendant, smoker, workday measurement, air level 190 ug/cu m c) Non-workday measurement of b), air level 1.8 ug/cu m d) Gasoline tanker driver, non-smoker, workday measurement, air level 54 ug/cu m e) Non-workday measurement of d), air level 85 ug/cu m EMPATH: INDUSTRIAL CHEMICALS; MISSOURI: TEXAS: AGE: SEX: BLOOD: URINE: BENZENE: DIETS: DRINKING WATER: GASOLINE: INDUSTRIAL EMISSIONS: OCCUPATIONAL HAZARDS: POPULATION EXPOSURE: SMOKING	Zeldinger, R.A. Cooper, S.D. Harris, B.S.H., III Hartwell, T.D. Folson, R.E., Jr. Pellizzari, E.D. Sherdon, A.W. Wong, T.K. Zelon, R.S. PPA 560/13-80-028, 198 pp.

Ketene, chloro-
105-90-7
CG-45-Cl
EW 112.56, BP -45 C, BP 131.7 C, VP 10 mm Hg at 22.2 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6101 MILK		GC/MS	42	a) 0.1-0.2 ug/ml b) 0.1-0.3 ug/ml c) Trace-0.4 ug/ml d) 0.1-0.3 ug/ml e) 0.1-10 ug/ml f) Trace-10 ug/ml	a) 0.12 $\pm$ 0.1 ug/ml b) 0.16 $\pm$ 0.089 ug/ml c) 0.12 $\pm$ 0.11 ug/ml d) 0.16 $\pm$ 0.096 ug/ml e) 1.20 $\pm$ 0.30 ug/ml f) 0.37 $\pm$ 1.53 ug/ml	a) Bayonne, NJ, 6 samples b) Jersey City, NJ, 5 samples c) Pittsburgh, PA, 12 samples d) Baton Rouge, LA, 10 samples e) Charleston, WV, 9 samples f) Total milk sample size and extrapolated to entire population study assessed environmental pollutants in milk, evaluated using milk in pollutant studies near chemical manufacturing plants and/or industrial facilities. Additional data, U.S. and foreign, reviewed for additional information, contact Environmental Protection Agency, Environmental Protection Division, Office of Toxic Substances, Washington, DC 20461 Lactating volunteers, residing in area >12 mi, no travel out of area during preceding wk LOUISIANA: NEW JERSEY: PENNSYLVANIA: WEST VIRGINIA: WYOMING: MILK: CHLORINATED HYDROCARBONS: CHLOROPHENOLS: DMS: INDUSTRIAL AREAS: INDUSTRIAL EMISSIONS: LOCATION: PESTICIDE RESIDUES: URBAN AREAS: INDUSTRIAL CHEMICALS: SOLVENTS	Erickson, M.D. Harris, M.D. Tostler, E.D. Tostler, E.D. Waddell, B.D. Whitaker, D.A. 1985 EPA 540/13-80-029, 193 PP.

Penrose, dichloro-
25321-22-6
C6-H4-Cl2
MW 167.01, BP 173-1

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	BIOMARKER	MEAN	GENERAL INFORMATION	REFERENCE
6102 milk		GC/MS	42	a) 0.2-66 ng/ml b) 0.2-8.9 ng/ml c) 0.2-8.9 ng/ml d) 0.04-26 ng/ml e) 0.04-68 ng/ml	a) 19.37 $\pm$0r- 25.34 ng/ml b) 28.48 $\pm$0r- 31.69 ng/ml c) 1.71 $\pm$0r- 2.41 ng/ml d) 8 $\pm$0r- 13.98 ng/ml e) 4.30 $\pm$0r- 8.25 ng/ml f) 9.15 $\pm$0r- 17.3 ng/ml	a) Dayton, NJ, 6 samples b) Jersey City, NJ, 5 samples c) Pittsburgh, PA, 12 samples d) Baton Rouge, LA, 10 samples e) Charleston, WV, 9 samples f) Utah, UT Due to small sample size and nonrandom sampling, data cannot be extrapolated to entire population study measured environmental pollutants in milk, evaluated using milk in pollutant studies vicinity of chemical manufacturing plants and/or industrial facilities. Additional data, U.S. and foreign, reviewed. For additional information contact Environmental Protection Agency, Exposure Evaluation Division, Office of Toxic Substances, Washington, DC 20461 Lactating volunteers, residing in area >12 mo, no travel out of area during preceding wk LOUISIANA: NEW JERSEY: PENNSYLVANIA: WEST VIRGINIA: ADULTS: MILK: MEASUREMENT METHODS: BENZENES: CHLORINATED HYDROCARBONS: CHLOROBENZENES: EMB: INDUSTRIAL AEROS: INDUSTRIAL EMISSION: LACTATION: PESTICIDE RESIDUES: URBAN AEROS: INDUSTRIAL CHEMICALS: SOLVENTS	Ericksen, R.D. Harris, R.S., III Pollack, R.D. Yoner, K.B. Nedell, R.D. Whitaker, D.A. 1980 EPA 560/13-80-029, 153 PF.

Benzene, ethyl-
100-81-2
CB-H10
NW 106.16, NP -9

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
4103 Breath		GC/MS	28	0.6-6 ng/L	2.1 ng/L	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rapid protocol 16 days before end during study to minimize number and amount of exogenous constituents.	Kotoszynski, E. Gabriel, G. O'Neill, H. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

Benzene, hexachloro-

C6H6-12

MW 284.90, BP 231°C, BP 323-326°C, VP 1 mm Hg at 110.4°C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6104 Adipose		GC-EC	a) 12 b) 28 c) 40	a) 0.273-1.614 ppm b) 0.516-1.723 ppm c) 0.273-1.723 ppm	a) 0.837 $\pm$ 0.360 ppm b) 1.080 $\pm$ 0.321 ppm c) 1.007 $\pm$ 0.347 ppm	a) Rural residents b) Urban residents c) Combined, rural and urban residents Spain SPAIN: ADIPOSE TISSUE: COMPARATIVE EVALUATION: CHLORINE COMPOUNDS: FUNGICIDES: HEXACHLOROBENZENE: HEALTH HAZARDS: RURAL AREAS; URBAN AREAS	Pozolora, E. Herrera Martesche, A. Polo Villar, L.M. Jordal Villatejo, M. Mallol Macobar, J. Polo Villar, E. 1978 Revista de Saúdad e Higiene Publica 52(Sep/Oct)
6105 Hair		GC-EC	a) 21 b) 28 c) 65	a) 0.161-10.388 ppm b) 1.186-9.445 ppm c) 0.161-10.388 ppm	a) 3.735 $\pm$ 0.694 ppm b) 3.322 $\pm$ 0.528 ppm c) 3.515 $\pm$ 0.425 ppm	a) Rural residents b) Urban residents c) Combined, rural and urban residents Spain SPAIN: HAIR: COMPARATIVE EVALUATIONS: FUNGICIDES: HEXACHLOROBENZENE: HEALTH HAZARDS: POPULATION EXPOSURE: RURAL AREAS; URBAN AREAS	Polo Villar, L.M. Herrera Martesche, A. Pozolora, E. Lopez Gassner, R. Jordal Villatejo, M. Macobar, J. Polo Villar, E. 1978 Revista Espanola de Pediatría 35(207-208):271-274

Benzene, o-dichloro- (8 CI)

C6H4Cl2

MW 147.0, BP -17.5°C, BP 160-183°C, VP 1 mm Hg at 20.0°C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6106 Breath		GC/MS	28	0.08-1.2 ng/l	0.3 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROBENZENES	Krotoszynski, B. Gabriel, G. O'Neill, H. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

Benzene, o-diethyl- (8 CI)

C6H4Et2

MW 134.22, BP -31.2°C, BP 163.4°C, VP 1 mm Hg at 22.3°C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6107 Breath		GC/MS	28	0.2-2 ng/l	0.65 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROBENZENES	Krotoszynski, B. Gabriel, G. O'Neill, H. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

Benzenes, p-dichloro- (8 CI)
 Benzenes, 1,4-dichloro- (9 CI)
 106-86-7
 C6-H4-Cl2
 MW 147.01, BP 53 C, BP 178-12 C, VP 10 mm Hg at 58.8 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6108 Breath		GC/MS	28	0.6-5.7 ug/l	1.8 ug/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of aerosol constituents. ACUTES: BRONCHITIS; ALLERGIES; CHLORINE CYCLIC COMPOUNDS; CHLOROPHENES	Kroonsteyn, B. Gabriel, G. O'Neill, H. Claudio, A.P.A. 1977 Journal of Chromatographic Science 15:239-244

Benzidine (8 CI)
 (1,4-bis(phenyl)-4,4'-diamine (9 CI)
 92-87-5
 C12-H12-N2
 MW 184.23, MP 127.5-128.7 C at 140 mm Hg, BP 401.7 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6109 Urine		GC/MS	5	1.0-25.4 nmol/nmol creatinine	Not given	After acid hydrolysis. No free benzidine or monochlorobenzidine found in 200 samples during 15 mo period Textile dye workers, England. INDUSTRIAL CHEMICALS; UNITED KINGDOM; ACUTES: URINE; BENZIDINE; OCCUPATIONAL HAZARDS	Neal, P.P. Cocker, J. Wilson, R.K. Gibson, J.R. 1981 British Journal of Industrial Medicine 38:191-193

Benzoic acid, 4,4'-dichloro-, ethyl ester (8 CI)
 Benzoic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester (9 CI)
 510-15-6
 C14-H8-Cl2-O3
 MW 325, BP 148 C at 0.04 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6110 Urine		GC	5	0.07-6.2 ppm	1.3 ppm	Measured as 4,4'-dichlorobenzophenone from oxidation of parent compound and metabolites. Part of data analyzed in terms of my creatinine. Exact exposure level unknown. Citrus grove workers, Florida FLOIDA: ADULTS: URINE: PESTICIDES; FARMS: OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES: RURAL AREAS	Levy, K.A. Brady, S.S. Paffenberger, C.D. 1981 Bulletin of Environmental Contamination and Toxicology 27:235-238

Benzo(a)pyrene
50-32-8
C20-H12
MW 252.3, BP 179 C, BP 172 C at 10 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6111 Adipose		HPLC	10	12-59 ppt wet wt	24 ppt wet wt	Autopsies 27-66 yr olds, Japan INDUSTRIAL CHEMICALS: JAPAN; AUTOPSIES: ADIPOSE TISSUE; LIVER; POPULATION EXPOSURE	Obana, H. Hori, S. Kashimoto, T. Kunita, M. 1981 Bulletin of Environmental Contamination and Toxicology 27:23-27
6112 Liver		HPLC	6	10-32 ppt wet wt	16 ppt wet wt	Autopsies 27-66 yr olds, Japan INDUSTRIAL CHEMICALS: JAPAN; AUTOPSIES: ADIPOSE TISSUE; LIVER; POPULATION EXPOSURE	Obana, H. Hori, S. Kashimoto, T. Kunita, M. 1981 Bulletin of Environmental Contamination and Toxicology 27:23-27

Benzo(b)pyrene
192-37-2
C20-H12
MW 252.30, BP 178-179 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6113 Adipose		HPLC	10	30-150 ppt wet wt	60 ppt wet wt	Autopsies 27-66 yr olds, Japan INDUSTRIAL CHEMICALS: JAPAN; AUTOPSIES: ADIPOSE TISSUE; LIVER; POPULATION EXPOSURE	Obana, H. Hori, S. Kashimoto, T. Kunita, M. 1981 Bulletin of Environmental Contamination and Toxicology 27:23-27

Benzo(ghi)perylene
191-24-2
C22-H12
MW 276.38, BP 277-279 C, BP >500 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6114 Adipose		HPLC	10	13-110 ppt wet wt	48 ppt wet wt	Autopsies 27-66 yr olds, Japan INDUSTRIAL CHEMICALS: JAPAN; AUTOPSIES: ADIPOSE TISSUE; LIVER; POPULATION EXPOSURE	Obana, H. Hori, S. Kashimoto, T. Kunita, M. 1981 Bulletin of Environmental Contamination and Toxicology 27:23-27
6115 Liver		HPLC	6	17-59 ppt wet wt	30 ppt wet wt	Autopsies 27-66 yr olds, Japan INDUSTRIAL CHEMICALS: JAPAN; AUTOPSIES: ADIPOSE TISSUE; LIVER; POPULATION EXPOSURE	Obana, H. Hori, S. Kashimoto, T. Kunita, M. 1981 Bulletin of Environmental Contamination and Toxicology 27:23-27

Benzo(b)fluoranthene
207-08-09
C20-H12
MW 252.32, BP 217 C, BP 480 C at 760 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6116 Adipose		NPLC	10	Not detected-89 ppt wet wt	26 ppt wet wt	Autopsies 27-66 yr olds, Japan INDUSTRIAL CHEMICALS: JAPAN; AUTOPSIES: ADIPOSE TISSUE; LIVER; PCULATION EXPOSURE	Obata, H. Hori, S. Kamigaki, T. Kamita, M. 1981 Bulletin of Environmental Contamination and Toxicology 27:23-27
6117 Liver		NPLC	6	6-23 ppt wet wt	13 ppt wet wt	Autopsies 27-66 yr olds, Japan INDUSTRIAL CHEMICALS: JAPAN; AUTOPSIES: ADIPOSE TISSUE; LIVER; PCULATION EXPOSURE	Obata, H. Hori, S. Kamigaki, T. Kamita, M. 1981 Bulletin of Environmental Contamination and Toxicology 27:23-27

Benzyl alcohol, alpha-(aminomethyl)-3,4-dihydroxy-, (-)- (8 CI)
5,2-Benzenediol, 4-(2-amino-1-hydroxyethyl)-, (R)- (9 CI)
MW 154.17, BP 157 C
MW 159.16, BP 191 C (decolor)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6118 Blood, Plasma			a) 84 b) 67 c) 41 d) 40	a) 130-700 pg/ml b) 40-650 pg/ml c) 100-600 pg/ml d) 170-650 pg/ml	a) 304 +/- 20 pg/ml b) 339 +/- 23 pg/ml c) 279 +/- 20 pg/ml d) 385 +/- 31 pg/ml	a) Hypertensive b) Hypertensive c) Hypertensive, 16-30 yr old d) Hypertensive, > 40 yr old Mean increments on standing for 10 min, a-d, 23%, 25%, 36% and 27% pg/ml No significant differences in blood pressure detected data. Range estimated from graph ADULTS: AGE: HYPERTENSION; BLOOD FLASMA: AUTOMONIC DRUGS; COMPARATIVE EVALUATIONS	Lake, C.R. Ziegler, R.G. Coleman, M.D. Kopla, I.J. 1977 New England Journal of Medicine 296(4):208-209

Benzylamine (8 CI)
Benzeneethanamine (9 CI)
100-11-9
C7-H9-N
MW 107.2, BP 185 C, VP 1 mm Hg at 29.0 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6119 Breath		GC/MS	28	0.18-0.44 ug/l	0.28 ug/l	Estimated from graph Healthy 18-60 yr olds, non-smokers. Field protocol in days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROPRENE	Krotosynski, B. Gardiel, G. O'Neill, M. Clandino, M.F.A. 1977 Journal of Chromatographic Science 15:239-244

PRC, total (No pomings in CHENLIME).
56-89-9
CG-86-C16
RW 290.85

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6120 Blood		GC	100	a) 8.5-850.0 ppb b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 49.9 +or- 25.6 ppb b) 43.0 +or- 46.2 ppb c) 63.7 +or- 60.5 ppb d) 52.8 +or- 20.2 ppb e) 61.3 +or- 117.3 ppb f) 55.0 +or- 91.0 ppb g) 60.5 +or- 32.6 ppb	a) All subjects b) 40 subjects, ages 18-25 yr c) 40 subjects, ages 26-34 yr d) 40 subjects, ages 35-44 yr e) 52 subjects, non-vegetarians f) 43 subjects, rural g) 47 subjects, urban Maternal blood, collected 8-12 hr before parturition Residents of Lucknow, India EXPOSURE: AGENTS: PESTS: BLOOD; RESIDUES: CHLORINE ORGANIC COMPOUNDS; LIFE: DDE; DDT; METHACHLOROCYCLOHEXANE; LINDANE; PESTICIDES; AGRICULTURE; BIOACCUMULATION; DIETS; PREGNANCY; RURAL AREAS; URBAN AREAS; PESTICIDE RESIDUES; POPULATION EXPOSURE	Saxena, M.C. Siddiqui, S.K.-J. Bhargava, S.K. Krishna Murthi, C.R. Ketty, D. 1981 Archives of Toxicology 48:127-134
6121 Blood, Fetal		GC	100	a) 2.0-507.8 ppb b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 43.1 +or- 26.6 ppb b) 32.9 +or- 125.2 ppb c) 45.7 +or- 30.6 ppb d) 38.3 +or- 43.7 ppb e) 35.6 +or- 20.2 ppb f) 27.0 +or- 13.6 ppb g) 47.3 +or- 92.0 ppb	a) All subjects b) 36 subjects, mothers age 18-25 yr c) 36 subjects, mothers age 26-34 yr d) 36 subjects, vegetarians e) 54 subjects, non-vegetarians f) 42 subjects, rural g) 48 subjects, urban Cord blood, collected at delivery f) and g) significantly different Residents of Lucknow, India INDIA: AGENTS: AGENTS: PESTS: BLOOD; PLACENTA: CHLORINE ORGANIC COMPOUNDS; LIFE: DDE; DDT; METHACHLOROCYCLOHEXANE; LINDANE; PESTICIDES; AGRICULTURE; BIOACCUMULATION; DIETS; PREGNANCY; RURAL AREAS; URBAN AREAS; PESTICIDE RESIDUES; POPULATION EXPOSURE	Saxena, M.C. Siddiqui, S.K.-J. Bhargava, S.K. Krishna Murthi, C.R. Ketty, D. 1981 Archives of Toxicology 48:127-134
6122 Blood, serum		GC	a) 32 b) 27 c) 68 d) 40	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given	a) 0.077 +or- 0.0623 b) 0.100 +or- 0.0688 c) 0.294 +or- 0.2134 d) 0.323 +or- 0.1526 e) 0.171 +or- 0.0812 f) 0.365 +or- 0.1122 g) 0.449 +or- 0.1257 h) 0.380 +or- 0.1411 i) 0.497 +or- 0.1623 j) 0.302 +or- 0.1121 ppm	a) No previous exposure b) 1 season of prior exposure c) 2 seasons of prior exposure d) 3 seasons of prior exposure e) 3 seasons of prior exposure f) Group a), post-exposure g) Group b), post-exposure h) Group c), post-exposure i) Group d), post-exposure j) Group e), post-exposure k) After 16 wk spraying technical grade MCH (3.1% alpha, .7% beta, and 1% gamma), applied with pump (20 mg/kg ft) 18-49 yr old malaria spraysmen with 0-4 seasons prior occupational exposure RESULTS: BLOOD SERUM: CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; METHACHLOROCYCLOHEXANE; PESTICIDES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES	Gupta, S.K. Parikh, J.B. Shah, M.P. Chatterjee, S.K. Kashyap, S.K. 1982 Archives of Toxicology 37:111-114

(UNIT PAGE)

2HC, total (No postings in CHELREP).
 8-89-9
 C6-H5-Cl6
 RW 290.65

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6123 Placenta		GC	100	a) 8.2-390.7 ppb b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 45.4 *or- 21.0 ppb b) 41.8 *or- 7.0 ppb c) 50.9 *or- 29.3 ppb d) 38.5 *or- 85.4 ppb e) 32.0 *or- 27.3 ppb f) 57.7 *or- 61.9 ppb g) 57.7 *or- 61.9 ppb	a) All subjects b) 60 subjects, ages 18-35 yr c) 40 subjects, ages 26-34 yr d) 56 subjects, non-vegetarians e) 56 subjects, non-vegetarians f) 43 subjects, rural g) 57 subjects, urban tissue collected at delivery b) and c), d) and e) significantly different Residents of Lucknow, India INDIA: ADULTS; AGE: FETUS; BLOOD: PLACENTA: CHLORINE ORGANIC COMPOUNDS: LIFE: DDT; DDT: HEXACHLOROCYCLOHEXANE: LINDANE: PESTICIDES: AGRICULTURE: BIOACCUMULATION: DIETS: PREGNANCY: RURAL AREAS: URBAN AREAS: PESTICIDE RESIDUES: POPULATION EXPOSURE	Saxena, M.C. Siddiqui, A.R.J. Sharma, S.K. Kishan Nurti, C.R. Katty, D. 1981 Archives of Toxicology 88:127-138

Biphenyl, chloro (6 Cl)
 1,1'-Biphenyl, chloro derivatives (9 Cl)
 136-36-3
 FIRST COMPOSITION UNKNOWN OR UNDETERMINED

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6124 Adipose		TIC GC	a) 1778 b) 1120 c) 926 d) 793 e) 684	a) = zero b) = 3 ppm c) = 3 ppm d) = 3 ppm e) = 3 ppm	a) 84,582 positive b) Not given c) Not given d) Not given e) 99,342 positive	a) 1972 89,772 were positive, 3,852 were <3 ppm b) 1973 78,521 were positive, 3,803 were <3 ppm c) 1974 80,531 were positive, 3,803 were <3 ppm d) 1975 94,202 were positive, 10,742 were <3 ppm e) 1976 97,972 were positive, 9,292 were <3 ppm Data also presented by racial groupings. Over study years (1972-76) nonblacks averaged 7.15 percentage points higher than whites for percent PCB > 3 ppm. Over study years, nonblacks averaged 3 percentage points higher than whites in all groups with detectable PCB in adipose tissue. The National Human Monitoring Program, started 1967, monitors pesticide residues in general US population and assesses changes all trends. For more information, contact US Environmental Protection Agency, Exposure Evaluation Division, Office of Toxic Substances, Washington, DC 20460. Adipocytes, whites and nonblacks from cities with populations of <25,000. AUTOPSIES: RACIAL STUDIES; ADIPOSE TISSUE: POLYCHLORINATED BIPHENYLS	Lucas, R.W. Pickett, N.D. Pierckala, R.V. Wiles, S.B. 1980 EPA 560/13-79-085, 101 EF.

(NEXT PAGE)

Biphenyl, chloro (6 CI)
1,1'-Biphenyl, chloro derivative (9 CI)

EXACT COMPOSITION UNKNOWN OR UNIDENTIFIED

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6125 Blood	Ingestion	GC	a) 23 b) 41	a) 1-600 ppb b) 1-30 ppb	a) 59 ug- 163 ppb b) 6.7 ug- 5.3 ppb	a) Taiwan, 1975-80, few months after ingestion. 15 cases with levels >10 ppb. b) Japan, 1973, 5 yr after ingestion. 7 cases with levels >10 ppb. Poisoning by contaminated rice oil. Similar intake in a) and b). Only PCBs with long retention time remaining in b). TANAKA: JAPAN: BLOOD; CHLORINATED HYDROCARBONS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED DIBENZOFURANS; CHLORINATED POLYBIPHENYLS; INDUSTRIAL CHEMICALS	Sasaki, Y. Tanaka, H. Tanaka, S. Katsushige, K. Sato, S.T. 1981 Chemosphere 11(2):199-206
6126 Milk		GC/MS	1	a) 6.6-8.6 ug/g b) 578-647 ug/g	a) Not given b) Not given	a) Whole milk b) Fat Range for 6 extraction techniques. Of total br wt in milk, 6-10% was trichlorobiphenyl, 15-28% was tetrachlorobiphenyl, 6-16% pentachlorobiphenyl, 12-15% hexachlorobiphenyl, 27-48% heptachlorobiphenyl, and 7-9% octachlorobiphenyl. INDUSTRIAL CHEMICALS; CANADA: ADULTS; MILK; MEASUREMENT METHODS; PCBs; POLYCHLORINATED BIPHENYLS	See, J. Devies, D.J. Lee, P.-Y. 1980 Chemosphere 9:763-769

Biphenyl, 2,2',4,4'-tetrachloro- (6 CI)
1,1'-Biphenyl, 2,2',4,4'-tetrachloro- (9 CI)
2637-78-8
C12-86-C14
HW 291.98

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6127 Adipose		GC	26	0.09-11 ug/g	0.6 ug/g Median	Capacitor manufacture workers, 1976 clinical health survey. Relative concentrations used to calculate adipose-plasma partition ADIPOSE TISSUE; BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS; INDUSTRIES	Welf, A.S. Thornton, J. Fischbein, A. Lilla, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:194-196
6128 Blood, plasma		GC	26	0.2-24 ug/ml	3 ug/ml Median	Capacitor manufacture workers, 1976 clinical health survey. Relative concentrations used to calculate adipose-plasma partition ADIPOSE TISSUE; BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS; INDUSTRIES	Welf, A.S. Thornton, J. Fischbein, A. Lilla, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:194-196

Biphenyl, 2,3',4,4'-tetrachloro- (8 CI)
 1,1'-Biphenyl, 2,3',4,4'-tetrachloro- (9 CI)
 32598-10-0
 C12-86-C16
 RE 291.98

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	MEAN	GENERAL INFORMATION	REFERENCE
6129 Adipose		GC	26	0.2-18 ug/g	2 ug/g Median	Capacitor manufacture workers. 1976 clinical health survey. Relative levels used to calculate adipose-plasma partition	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6130 Blood, plasma		GC	26	0.3-113 ug/ml	7 ug/ml Median	ADPOSE TISSUE: BLOOD PLASMA: POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS; INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

Biphenyl, 2,3,3',4,4'-pentachloro- (8 CI)
 1,1'-Biphenyl, 2,3,3',4,4'-pentachloro- (9 CI)
 32598-18-8
 C12-85-C15
 RE 316

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	MEAN	GENERAL INFORMATION	REFERENCE
6131 Adipose		GC	26	0.2-8 ug/g	1 ug/g Median	Capacitor manufacture workers. 1976 clinical health survey. Relative levels used to calculate adipose-plasma partition	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6132 Blood	Ingestion	GC	a) 10 b) 9 c) 7	a) Not given b) Not given c) Not given	a) 1.20 ug- 1.03 ppb b) 0.01 ppb c) 0.05 ug- 0.04 ppb	ADPOSE TISSUE: BLOOD PLASMA: POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS; INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6133 Blood, plasma		GC	26	0.4-20 ug/ml	2 ug/ml Median	Capacitor manufacture workers. 1976 clinical health survey. Relative levels used to calculate adipose-plasma partition	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

Bisphenyl, 2,3,4,5-tetrachloro- (8 CI)
 1,1'-Bis(2,3,4,5-tetrachlorophenyl)
 3,3',4,4'-tetrachloro- (9CI)
 C12-86-CL8
 NW 291.58

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6136 Adipose		GC	26	0.03-6 ug/g	0.9 ug/g Median	Analytically indistinguishable from 3,4,3',5'-tetrachlorobiphenyl Capacitor manufacture workers. 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6135 Blood, plasma		GC	26	0.7-29 ug/ml	3 ug/ml Median	Analytically indistinguishable from 3,4,3',5'-tetrachlorobiphenyl Capacitor manufacture workers. 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition ADPOSE TISSUE: BLOOD PLASMA: POLYCHLORINATED BIPHENYLS: OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

Bisphenyl, 2,3',4,4',5-pentachloro- (8 CI)
 1,1'-Bis(2,3',4,4',5-pentachlorophenyl)
 3,3',4,4',5-pentachloro- (9 CI)
 C12-85-CL5
 NW 316

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6136 Adipose		GC	26	0.09-5 ug/g	2 ug/g Median	Capacitor manufacture workers. 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition ADPOSE TISSUE: BLOOD PLASMA: POLYCHLORINATED BIPHENYLS: OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6137 Blood	Ingestion	GC	a) 10 b) 9 c) 7	a) Not given b) Not given c) Not given	a) 3.46 ug- 2.37 gpb b) 0.13 ug- 0.05 gpb c) 0.22 ug- 0.09 gpb	a) Taiwan, PCB poisoning b) Japan, PCB poisoning c) Japan, conitrols Few months (a) and 5 yr (b) after ingesting contaminated rice oil. Tissue: Japan: BLOOD: CHLORINATED BIPHENYLS: POLYCHLORINATED BIPHENYLS: BIOACCUMULATION: FOOD CONTAMINATION: POPULATION EXPOSURE: INDUSTRIAL CHEMICALS	Nasuda, I. Kuroki, K. Yasuyo, Y. Kureguchi, K. Kureguchi, K. Kureguchi, K. 1981 Chemosphere 11(2):199-206
6138 Blood, plasma		GC	26	0.7-41 ug/ml	9 ug/ml Median	Capacitor manufacture workers. 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition ADPOSE TISSUE: BLOOD PLASMA: POLYCHLORINATED BIPHENYLS: OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

Biphenyl, 2,3',4',5-tetrachloro- (8 CI)
1,1'-Biphenyl, 2,3',4',5-tetrachloro- (9 CI)
32596-11-1
C12-86-C14
NW 291.98

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6139 Adipose		GC	26	0.1-2 ug/g	0.4 ug/g Median	Capacitor manufacture workers. 1976 clinical health survey. Relative levels used to calculate adipose-plasma partition	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6180 Blood, plasma		GC	26	0.2-27 ng/ml	2 ng/ml Median	ADIPOSE TISSUE: BLOOD PLASMA: POLYCHLORINATED BIPHENYLS: OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

Biphenyl, 2,4,4',5-tetrachloro- (8 CI)
1,1'-Biphenyl, 2,4,4',5-tetrachloro- (9CI)
32690-93-0
C12-86-C14
NW 291.98

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6141 Adipose		GC	26	0.5-36 ug/g	7 ug/g Median	Capacitor manufacture workers. clinical health survey. Relative levels used to calculate adipose-plasma partition	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6142 Blood, plasma		GC	26	0.7-180 ng/ml	26 ng/ml Median	ADIPOSE TISSUE: BLOOD PLASMA: POLYCHLORINATED BIPHENYLS: OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

Biphenyl, 2,4',5-trichloro- (8 CI)
1,1'-Biphenyl, 2,4',5-trichloro- (9 CI)
32690-93-0
C12-87-C13
NW 257.54

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6183 Blood, plasma		GC	26	1-950 ng/ml	27 ng/ml Median	Analytically indistinguishable from 2,4,4'-trichlorobiphenyl Capacitor manufacture workers. 1976 clinical health survey Relative concentrations used to calculate adipose-plasma partition	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
						ADIPOSE TISSUE: BLOOD PLASMA: POLYCHLORINATED BIPHENYLS: OCCUPATIONAL HAZARDS: INDUSTRIES	

Biphenyl, 3,3',4,4'-tetrachloro- (8 CI)
 1,1'-diphenyl, 3,3',4,4'-tetrachloro- (9 CI)
 3259-13-3
 C12-86-C14
 291-98

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6146 Adipose		GC	26	0.07-0.3 ug/g	0.1 ug/g Median	Analytically indistinguishable from 2,3,6,3',4',5'-pentachlorobiphenyl Capacitor manufacture workers. 1976 Clinical health survey. ACIPOSE TISSUE: BLOOD PLASMA: FOI/CHLORINATED BIPHENYLS: OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Sellekoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6145 Blood, plasma		GC	26	0.3-3 ug/ml	0.5 ug/ml Median	Analytically indistinguishable from 2,3,6,3',4',5'-pentachlorobiphenyl Capacitor manufacture workers. 1976 Clinical health survey. ADPOSE TISSUE: BLOOD PLASMA: FOI/CHLORINATED BIPHENYLS: OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Sellekoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

Biphenyl, 3,3',5,5'-tetrachloro- (8 CI)
 1,1'-diphenyl, 3,3',5,5'-tetrachloro- (9 CI)
 3259-13-3
 C12-86-C14
 291-98

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6146 Adipose		GC	26	0.04-3 ug/g	0.3 ug/g Median	Analytically indistinguishable from 2,3,6,3'-tetrachlorobiphenyl Capacitor manufacture workers. 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition ACIPOSE TISSUE: BLOOD PLASMA: FOI/CHLORINATED BIPHENYLS: OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Sellekoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6147 Blood, plasma		GC	26	0.2-42 ug/ml	1 ug/ml Median	Analytically indistinguishable from 2,3,6,3'-tetrachlorobiphenyl Capacitor manufacture workers. 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition ADPOSE TISSUE: BLOOD PLASMA: FOI/CHLORINATED BIPHENYLS: OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Sellekoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

liphenyl, a,a'-dichloro- (8 CI)
1,1'-Biphenyl, a,a'-dichloro- (9 CI)
2050-68-2
C12-HB-C12
MW 223.11, BP 140-149 C, BP 315-319 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6148 Adipose		GC	26	0.002-0.2 ug/g	0.08 ug/g Median	Capacitor manufacture workers, 1976 clinical health survey. Relative concentrations used to calculate adipose-plasma partition	Wolff, K.S. Thornton, J. Fischbein, A. Lille, H. Seligman, I.J. 1976 Toxicology and Applied Pharmacology 62:294-306
6149 Blood, plasma		GC	26	0.03-2 ng/ml	0.7 ng/ml Median	Capacitor manufacture workers, 1976 clinical health survey. Relative concentrations used to calculate adipose-plasma partition	Wolff, K.S. Thornton, J. Fischbein, A. Lille, H. Seligman, I.J. 1976 Toxicology and Applied Pharmacology 62:294-306

Fromline
7726-95-6

BP 79-90°C, BP 59-57 C, VP 1 mm Hg at -60 C, 10 mm Hg at -30 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6150 Aorta	NA		41 9 41 9 41 9 41 9 41 9 41 9	a) 82.9-181 ug/g b) 67.5-110 ug/g c) 37.9-70.5 ug/g d) 21.0-127 ug/g e) 85.8-139 ug/g f) 28.0-80.9 ug/g g) Dry wt	a) 70.6 ug/g b) 66.2 ug/g c) 52.3 ug/g d) 66.8 ug/g e) 104 ug/g f) 60.8 ug/g g) Dry wt	a) Mural intima, median 69.7 ug/g dry wt b) Mural media, median 90.6 ug/g dry wt c) Mural adventitia 50.5 ug/g dry wt d) Atherosclerotic media 48.8 ug/g dry wt e) Atherosclerotic media 103 ug/g dry wt f) Atherosclerotic media 61.8 ug/g dry wt g) Correlation with age. No significant higher in media. No known tissue exposure 1 day-79 yr olds, autopsies AGE: AUTOPSIES; AORTA; SPONZIE	Cross, J.D. Sale, H.B. Witt, R. 1976 Journal of Clinical Pathology 30:393-395
6151 Hair	NA		56	0.47x10 (E-6)-799x10 (E-6) g/cu cm	4.25x10 (E-6) g/cu cm	3 cm segments of single hairs Some samples below detection limits TECHNIQUE: HAIR: POLYESTER REACTOR; PREPARATION: METHODS: ANALYTICAL METHODS: SPONZIE; COPPER; GOLD; LANTHANUM; MANGANESE; MERCURY; METALS; SODIUM; SILVER; SODIUM; SYNTHESIS; ZINC; INDUSTRIAL ATMOSPHERES	Dobczynski, R. Boboli, E. 1976 Journal of Neurological Chemistry 31:267-269

(NEXT PAGE)

C-29 Sterol (No postings in CAPLINE).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6156 Blood, cells	Ingestion	TLC GC/MS	3	1.5-2.3 ug/g	1.8 ug/g	Total noncholesterol sterols in diet, 393 mg/day for 3-4 wk (2 subjects) or 8 wk (1 subject). Total sterols in diet, 634 mg/day 2 normal sex, one 66 yr old hypercholesterolemic woman ADULTS: BLOOD PLASMA: ERYTHROCYTES: CHOLESTEROLS; DIETS: FOODS	Comar, W.E. Lia, D.S. 1981 Gastroenterology 81:276-284
6157 Blood, Plasma	Ingestion	TLC GC/MS	9	Not detectable-0.4 ug/g	1.5 ug/g	Total noncholesterol sterols in diet, 392 mg/day for 3-4 wk (6 subjects) or 8 wk (2 subjects). Total sterols in diet, 647 mg/day or 634 mg/day 8 normal 23-47 yr old men, one hypercholesterolemic 66 yr old woman ADULTS: BLOOD PLASMA: ERYTHROCYTES: CHOLESTEROLS; DIETS: FOODS	Comar, W.E. Lia, D.S. 1981 Gastroenterology 81:276-284

Cedane
C40-43-9

MW 112.40, BP 321 C, BP 765 C, VP 1 mm Hg at 344 C, 10 mm Hg at 445 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6159						a) Mothers (103) b) Infants (103) c) Mothers, 18-24 yr old (48) d) Infants of c) e) Mothers, 30 yr old (33) f) Infants of e) g) Mothers, 31-42 yr old (29) h) Infants of g) i) Mothers, 43-54 yr old (13) j) Infants of i) k) Mothers with preterm births (7) l) Infants of k) m) Mothers with small-for-date infants (9) n) Infants of n) o) Mothers with malformed infants (8) p) Infants of o) q) Mothers with normal infants (66) r) Infants of q) s) Mothers significantly different, also p) and q). No correlation with parity Residents of eastern France Inverse relationship between Cd in infants' hair and birthweight. Cd levels in infants of hypertensive mothers were lower than for mothers, and significantly lower in infants of normotensive mothers. Inverse association of Cd levels in mothers and infants FRANCE: ADULTS: AGE; SEX; HAIR: CUMULATIVE EXPOSURE; CADIUM: EXPOSURE; BIOACCUMULATION; BLOOD EXPOSURE; FREQUENCY; PUPAL AREA	Huel, G. Nodde, C. Ittrah, M.A. 1981 Archives of Environmental Health 36(5):221-227

(BEST VALUE)

Cadellus
7460-83-9

At 112.40, NP 121 C, NP 765 C, VP 1 NP 84 at 394 C, 10 NP 84 at 406 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6166 Blood		AAS	a) 29 b) 42 c) 43	a) 1.50-26.50 ug/1000 ml b) 2.5-37.0 ug/1000 ml c) 1.4-3.6 ug/1000 ml	a) Not given b) Not given c) Not given	a) Forbiers at Bi-Cd battery plant, 1970-1971, 1.5 yr. b) Forbiers at Bi-Cd smelter, average time 10-15 yr. c) Controls. Median 1.6 ug/1000 ml 5-95 percentile range GENERAL: ADULTS; BLOOD; URINE; COMPARATIVE EVALUATIONS: INDUSTRIAL EFFLUENTS; CADMIUM; LEAD; MERCURY; METALS; PROTEINS; HEALTH HAZARDS; HYPERTENSIVE; OCCUPATIONAL HAZARDS; SMELTERS	Schaller, K.H. Gottlieb, J. Thurau, J. Schäfer, R. 1980 Zentralblatt für Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene, Abteilung 1. Originales, Reihe B. Hygiene, Parasitenkunde und Infektionskrankheiten Bd. 111:320-325
6167 Blood, cells		AAS	a) 20 b) 20 c) 10 d) 10 e) 30 f) 30	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 23 +or- 11 ng/g b) 24 +or- 22 ng/g c) 6.2 +or- 3.9 ng/g d) 4.1 +or- 3.8 ng/g e) 5.3 +or- 4.7 ng/g f) 4.4 +or- 3.0 ng/g Dry wt	a) Adults, cardiovascular disease, urban area b) Controls for a) c) Adults, cardiovascular disease, rural area d) Controls for c) e) High school seniors, hypertensive, urban area f) Controls for e) Erythrocytes Adults, mean age 55 yr. and students, Chatham and Frens counties, GA Depressed erythrocyte glutathione peroxidase CADMIUM; METALS; SELENIUM; RURAL AREAS; URBAN AREAS; GEORGIA; CARDIOVASCULAR DISEASES; ERYTHROCYTES; BLOOD; BLOOD PLASMA; ERYTHROCYTES	Andrews, J.W. Fares, C.G. Mettis, J.C., Jr. Davis, J.W. 1980 Proceedings, University of Missouri Annual Conference on Trace Substances in Environmental Health 10:33-42
6168 Blood, plasma		AAS	a) 20 b) 20 c) 10 d) 10 e) 30 f) 30	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 95 +or- 47 ng/g b) 119 +or- 163 ng/g c) 35 +or- 27 ng/g d) 28 +or- 14 ng/g e) 15 +or- 26 ng/g f) 11 +or- 10 ng/g Dry wt	a) Adults, cardiovascular disease, urban area b) Controls for a) c) Adults, cardiovascular disease, rural area d) Controls for c) e) High school seniors, hypertensive, urban area f) Controls for e) Adults, mean age 55 yr. and students, Chatham and Frens counties, GA Depressed erythrocyte glutathione peroxidase CADMIUM; METALS; SELENIUM; RURAL AREAS; URBAN AREAS; GEORGIA; CARDIOVASCULAR DISEASES; ERYTHROCYTES; BLOOD; BLOOD PLASMA; ERYTHROCYTES	Andrews, J.W. Fares, C.G. Mettis, J.C., Jr. Davis, J.W. 1980 Proceedings, University of Missouri Annual Conference on Trace Substances in Environmental Health 10:33-42

(NEXT PAGE)

Cadaver
C-40-43-9

REN 112.40, BP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6169 Blood, whole		RAAS	a) 20 b) 20 c) 10 d) 10 e) 30 f) 30	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 6.5 *or- 3.4 ug/ml b) 7.0 *or- 3.1 ug/ml c) 1.9 *or- 0.7 ug/ml d) 1.2 *or- 0.8 ug/ml e) 1.8 *or- 1.1 ug/ml f) 1.0 *or- 0.7 ug/ml	a) Adults, cardiovascular disease, urban area b) Controls for a) c) Adults, cardiovascular disease, rural area d) Controls for c) e) High school seniors, hypertensives, urban area f) Controls for e) Adults, mean age 55 yr. and students, Chatham and Nass Counties, GA Elevated blood Cd levels depressed erythrocyte glutathione peroxidase levels CADMIUM: METALS: SELENIUM: RURAL URBAN AREAS: GEORGIA: CARDIOVASCULAR DISEASES: HYPERTENSION: BLOOD: BLOOD PLASMA: ERYTHROCYTES	Andrews, J.V. 1981 Harris, J.C., Jr. Davis, J.M. 1980 Proceedings, University of Missouri Annual Conference on Trace Substances in Environmental Health 14:33-42
6170 Body		RA	a) 66 b) 23 c) 59	a) 64-300 mg b) 15-536 mg c) 62-224 mg	a) 171.5 *or- 7.33 mg b) 284.5 *or- 25.7 mg c) 104.6 *or- 4.98 mg	a) Cd workers, no renal dysfunction b) Cd workers with renal dysfunction c) Non-Cd workers at same Zn-Cd plant Mean employment 17 (a), 27 (b) and 18 (c) Yr. (c). 2 Mean exposure period 7.5 (a) ug/cd, 17 (b). Exposure levels 168 ug/cd (statistical significance for a) and b), and 0.1-15 ug/cd for c) 188 of 244 workers with liver and renal cortical Cd levels above detection limits (10 and 50 ppb, respectively) Estimated from kidney and liver levels Active and retired workers at Zn-Cd plant, Belgium Renal dysfunction unlikely if urine level of 10 ug/g creatinine (180 ug body burden) is not regularly exceeded. Critical liver level 30-40 ppm. Critical renal cortical level 21-385 ppm BELGIUM: ADULTS: KIDNEY DISEASES: BLOOD: BODY: KIDNEY: LIVER: LUNG: IN VIVO ANALYSIS: CADMIUM: METALS: HEALTH HAZARDS: INDUSTRIAL ATMOSPHERE: INHALATION: OCCUPATIONAL HAZARDS: SMelters	Roels, H.A. Lauwerys, R.A. Buchet, J.P. Bernard, A. Chettle, D.B. Harvey, T.C. Al-Haddad, I.K. 1981 Environmental Research 26:217-280
6171 Bone		KS	5	Not given	<4.0 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSY: ADRENAL GLANDS: ADRENAL: BONES: HEART: TESTES: KIDNEY: LIVER: LUNG: LYMPH NODES: PANCREAS: SPLEEN: STOMACH: THYROID GLANDS: THYROID: ADRENAL: BLOOD: CADMIUM: CALCIUM: COPPER: COBALT: COPPER: IRON: LEAD: MANGANESE: MERCURY: MOLTEN: MOLYBDENUM: NICKEL: RADIUM: ECG: SODIUM: SILICON: SILVER: SODIUM: STRONTIUM: TITANIUM: VANADIUM: ZINC: BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS: TOXIC: ZINC: ZINC: ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

Cedex
7840-43-9

CA

REV 112-40, MP 321 C, NP 765 C, VP 1 mm Hg at 300 C, 10 mm Hg at 400 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6172 Bone		MA	7	0.018-0.043 ppm	Not given	Atopias, fever 45-75 yr old factory workers, Sweden ARTIMONY: ARSENIC; CADMIUM; COPPER; LEAD; MERCURY; SELIUM; SILVER; TIN; ZINC: BIOACCUMULATION; INDUSTRIAL ATMOSPHERES; INDUSTRIAL PLANTS; EXPOSURE: POPULATION; OCCUPATIONAL; STUDY: COMPARATIVE EVALUATIONS; SYSTEM: AUTODIAGNOSIS; OCCUPATIONAL DISEASES; METALS	Liadh, B. Brune, D. Kordberg, G. Kestner, P.-O. 1980 Science of the Total Environment 16:109-116
6173 Hair		MA	55	0.01-0.05 ug/g	0.71 ug/g	Range of means, 5 localities Residents of Iceland AGENTS: HAIR; ARSENIC; CADMIUM; MERCURY; METALS; SELENIUM; ZINC	Johannesson, T. Lunde, G. Steinsson, E. 1981 Acta Pharmacologica et Toxicologica 49: 165-169
6174 Hair		MA	55	0.12-1.1 ug/g	Not given	Range of means, estimated from graph Awan, El Karga, Assuit, Cairo, and Alexandria, Egypt EGYPT: HAIR; METALS; ARTIMONY; CADMIUM; CESIUM; CHROMIUM; COBALT; IRON; MANGANESE; METALS; MERCURY; SILVER; SELENIUM; STRONTIUM; THALLIUM; ZINC; DRINKING WATER; POPULATION EXPOSURE; SOILS; URBAN AREAS	Kasperk, K. Iyengar, G.V. Fekedegbe, L.F. Fahad, S. Mahfouz, R. 1982 Science of the Total Environment 22:149-168
6175 Hair		MA		a) 0.06-5.0 ppm b) 0.06-1.54 ppm c) 0.09-1.23 ppm d) 0.06-5.0 ppm	a) 0.86 ug/g b) 0.9 ug/g c) 0.62 ug/g d) 0.93 ug/g	a) 12 cm length, 99 samples b) Root section, 18 samples c) Distal section, 18 samples d) Students in a), 31 samples levels higher in people near fossil fuel power station or chemical industry. Metropolitan Bombay, India INDIA: ADOLESCENTS; ADULTS; HAIR; ARTIMONY; ARSENIC; BROMINE; CADMIUM; CHLORINE; CHROMIUM; COBALT; COPPER; GOLD; IODINE; IRON; LITHIUM; MANGANESE; POTASSIUM; SCANDIUM; SELENIUM; SILVER; SODIUM; TIN; AIR POLLUTION; BIOACCUMULATION; FOSIL FUELS; INDUSTRIAL PLANTS; APPLIED INDUSTRIAL INDUSTRIAL PRESSIONS; INDUSTRIAL POLLUTION; POPULATION EXPOSURE; URBAN AREAS; INDUSTRIAL CHEMICALS	Shat, K.F. Arumachalam, J. Tegambaraman, S. Gangadharan, S. 1982 Science of the Total Environment 22:169-178
6176 Hair		MA	3	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 1.16 ug/g b) 0.87 ug/g c) 1.03 ug/g d) 0.16 ug/g e) 0.11 ug/g f) 0.43 ug/g	a) Subject 1, unwashed hair b) Subject 1, after 12 successive acetone washes c) Subject 2, unwashed hair d) Subject 2, after 12 successive acetone washes e) Subject 3, unwashed hair f) Subject 3, after 12 successive washes in sodium lauryl sulfate a), c), e), 6-10 determinations, each subject. Data also for other procedures and washing agents. HAIR: COMPARATIVE EVALUATIONS; CADMIUM; COPPER; IRON; MANGANESE; ZINC	Salsola, S. Pérez, E. Riudor, J.O. 1981 Analytica Chimica Acta 125: 131-137

(NEXT PAGE)

Cadmium
7440-83-9
Cd

Std 112.40, BP 321 C, BP 765 C, TP 1 mm Hg at 394 C, 10 mm Hg at 496 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6177 Heart		ES	a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) 0.45-1.7 ppa c) 5.7-20 ppa d) Not applicable e) Not applicable Dry wt	a) 0.47 $\pm$ 0.32 ppa b) 1.07 ppa c) 12.6 ppa d) 1.5 ppa e) 2.7 ppa Dry wt	a) Normal healthy men b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; THYROID GLANDS; TRACHEA; UTERUS; VESICULAR GLANDS; PROSTATE GLAND; COBLIT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6178 Intestine		ES	10	Not given	2.6 $\pm$ 0.73 ppa dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; UTERUS; VESICULAR GLANDS; PROSTATE GLAND; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6179 Kidney		ES	a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) 17-76 ppa c) 25-130 ppa d) Not applicable e) Not applicable Dry wt	a) 49 $\pm$ 23 ppa b) 46 ppa c) 61 ppa d) 3.9 ppa e) 7.0 ppa Dry wt	a) Normal healthy men b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; THYROID GLANDS; TRACHEA; UTERUS; VESICULAR GLANDS; PROSTATE GLAND; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

Cedulus
7440-43-9

CD
At 112.60, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 496 C

(СЕМИЛНО)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6180 Kidney		EA	a) 66 b) 23 c) 59	a) 51.7-310.3 ppm b) 103.4-300.0 ppm c) 51.7-248.3 ppm	a) 167.4 *or- 8.17 ppm b) 175.4 *or- 13.7 ppm c) 112.9 *or- 6.36 ppm	a) Cd workers, no renal δ_2 -section b) Cd workers with renal dysfunction c) Non-Cd workers at same Zn-Cd plant Mean employment 17 (a), 27 (b) and 16 yr (c). Mean exposure period 7.5 (a) and 21.2 yr (b). Exposure levels 168 ug/cu m (static aspirator) or 1192 ug/cu m (personal air monitor) for a) and b), and 6.1-15 ug/cu m for c). Renal δ_2 -sections taken 11 and 12 renal cortical Cd levels above detection limits (10 and 50 ppa, respectively) Analysis based on mean kidney depth of 5 cm; values should be increased 35% for mean depth of 8 cm Active and retired workers at Zn-Cd plant, Belgium Renal dysfunction unlikely if urine level of 10 ug/g creatinine (180 ug body burden) is not regularly exceeded. Critical liver level 30-60 ppm. Critical renal cortical level 215-305 ppm PREGNANT: ADULTS: KIDNEY DYSFUNCTION; BLOOD: BLOOD; KIDNEYS: LIVER; METALS: METALS; NEURAL SYSTEM: NEURAL HAZARDS: INDUSTRIAL ATMOSPHERES: INHALATION; OCCUPATIONAL HAZARDS: SNIFFERS	Roels, R.A. Lavery, R.B. Rechat, J.P. Bernard, A. Chettle, D.B. Harvey, T.C. Alkaddaf, E.K. Environmental Research 26:217-240
6181 Kidney		EA	1	Not applicable	39 *or- 4 mg	Mean of 3.6 mg is $\pm$ non-exposed subjects 37 yr old worker, Ni/Cd battery factory No glomerular or tubular proteinuria BLOOD: KIDNEYS: LIVER; URINE: URINE; KIDNEY: CADIUM; METALS: INDUSTRIAL PLANTS: OCCUPATIONAL HAZARDS; POPULATION EXPOSURE	Gosse, R.B. Rogien, R.D. Tammelin, P.S. British Journal of Industrial Medicine 38:165-166
6182 Kidney		EA	a) 7 b) 7 c) 4 d) 12	a) Not given b) Not given c) Not given d) Not given	a) 3.1 mg b) 4.6 mg c) 1.0 mg d) 25.6 mg	a) Controls, mean age 40.3 yr, 80 occupational exposures b) Office workers, mean age 34.0 yr, employed 0.7-34.0 yr c) Smelter workers, mean age 26.3 yr, employed 0.1-6.3 yr d) Smelter workers, mean age 50.3 yr, employed 9.0-29.0 yr Content left kidney e) significantly higher than a), b), and c) d) excreted significantly more acid, both low in urine than a), b), and c) Employees, Cd production plant and water plant employees (controls) BLOOD: KIDNEYS: LIVER: CADIUM; METALS: PROTEINS: BIOCHEMISTRY; INDUSTRIAL ATMOSPHERES: OCCUPATIONAL HAZARDS: SNIFFERS	Tohyama, C. Shimizu, K.H. Ellis, K.J. Cobb, S.N. 1981 Toxicology 22:181-191

----- PAGE -----

AN 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 390 C, 10 mm Hg at 486 C.

(Continued)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	SABOR	MEAS	GENERAL INFORMATION	REFERENCE
6193 Kidney		AAS	123	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given	a) 18.8 *or- 12.2 ug/g b) 11.1 *or- 9.5 ug/g c) 21.0 *or- 8.0 ug/g d) 9.8 *or- 7.7 ug/g e) 15.0 *or- 9.8 ug/g f) 20.3 *or- 17.3 ug/g g) 21.2 *or- 10.2 ug/g h) 2.0 *or- 21.9 ug/g i) 16.7 *or- 6.2 ug/g j) 9.0 *or- 10.5 ug/g k) 22.0 *or- 14.8 ug/g	a) All cases 123 b) Non-smokers, 75 cases c) Smokers, all cases d) Cigar smokers, 4 cases e) Cancer, non-smokers, 21 cases f) Cancer, smokers, 11 cases g) Cancer and metastases, non-smokers, 10 cases h) Cancer and metastases, smokers, 6 cases i) Brain tumors, 8 cases j) Other, non-smokers, 16 cases k) Other, smokers, 12 cases Autopsies	Shamberger, R.D. Ketchum, C.R. Proceedings, University of Missouri Annual Conference on Toxic Substances in Environmental Health 18:203-210
6194 Liver		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) 3.0-17 ppe c) 23-43 ppe d) Not applicable e) Not applicable Dry wt	a) 7.1 *or- 3.1 ppe b) 10.0 ppe c) 34 ppe d) 8.6 ppe e) 8.4 ppe Dry wt	a) Normal healthy men b) Chromium plating workers c) Chromate refinishing workers d) Airplane painter e) Stone mason Autopsies	Terabe, R. 1981 Archives of Environmental Health 36(4):155-165
6195 Liver		ESV LEW MA	30	0.5-4.9 ug/g wet wt	Not given	JAPAN: ADULTS: AUTOPSIES; LIVER GLANDS; KIDNEY; BONE MARROW; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYMUS; ADULTS: RADIUM; CADMIUM; CALCIUM; CHROMIUM; COPPER; IRON; LEAD; MANGANESE; METALS; NICKEL; PHOSPHORUS; STRONTIUM; SILICON; SODIUM; TITANIUM; VANADIUM; ZINC; ZINC ALLOY; ZINC; RADIATION; OCCUPATIONAL DISEASES; TOXICOLOGY; ELEMENTS	Karlamon, S.M. Zeisler, M. Wise, S.A. 1981 EPA 600/31-81-025, 6 pp.

--- PAGE ---

Cade lue
7440-43-9

CD
AUB 112.20, RP 321 C, PD 765 C, WD 1 000 000 000 390 C, 10 000 000 000 000 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6186 Liver		EA	a) 68 b) 23 c) 98	a) 10-61 ppm b) 28-158 ppm c) 10-35 ppm	a) 32.8 ug/g b) 68.7 ug/g c) 18.7 ug/g	a) Cd workers, no renal dysfunction b) Cd workers with renal dysfunction c) Non-Cd workers at same Zn-Cd plant Mean employment 17 (a), 27 (b) and 18 yr (c). Mean exposure period 7.5 (a) and 21.2 yr (b). Exposure levels 160 ug/cu a (static sampler) or 1192 ug/cu a (personal air monitor) for a) and b), and 0.1-15 ug/cu a for c) 146 of 284 workers with liver and renal cortical Cd levels above respective limits (10 and 50 ppm, respectively) Active and retired workers at Zn-Cd Plant, Belgium BLOOD: ADULTS: KIDNEY DISEASES; BLOOD: MOET: KIDNEYS: LIVERS; URINE; IN VIVO ANALYSIS: CADMIUM; METALS; HEALTH HAZARDS: INDUSTRIAL ATMOSPHERES; IRRADIATION; OCCUPATIONAL HAZARDS; SMELTERS	Toles, H.A. Lawrence, R.B. Ruchet, J.P. Bernard, A. Chetley, D.A. Harvey, T.C. Al-Saided, I.S. 1991 Environmental Research 20:219-240
6187 Liver		EA	1	Not applicable	8 ug/g 3 ug/g	37 yr old worker, Ni/Cd battery factory No glomerular or tubular proteinuria BLOOD: KIDNEYS: LIVERS; URINE; URINE KIDNEY: CADMIUM; METALS; INDUSTRIAL PLANTS; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE	Gosse, R.B. Moran, W.D. Cassano, P.E. 1981 British Journal of Industrial Medicine 38:185-186
6188 Liver		EA	a) 7 b) 7 c) 4 d) 12	a) Not given b) Not given c) Not given d) Not given	a) 3.2 ug/g b) 8.6 ug/g c) 2.9 ug/g d) 35.2 ug/g Geometric mean	a) Controls, mean age 40.3 yr, no occupational exposure b) Office workers, mean age 44.0 yr, employed 0.7-34.0 yr c) Smelter workers, mean age 26.3 yr, employed 0.7-34.0 yr d) Smelter workers, mean age 50.3 yr, employed 8.6-39.0 yr d) Significantly higher than a), b), and c) b) Significantly higher than a) Group d) excreted significantly more metallothionein in urine than a), b), or c) Employees, Cd production plant and water plant employees (controls) ADULTS: KIDNEYS: LIVERS; CADMIUM; METALS; PROTEINS; BIOACCUMULATION; INDUSTRIAL ATMOSPHERES; OCCUPATIONAL HAZARDS; SMELTERS	Takuma, C. Shiba, T.A. Pills, R.D. 1981, S.D. Toxicology 22:181-191

UNIT PAGE

Cadellus
7480-83-9
C8

Atm 112.40, NP 321 C, BP 765 C, EP 1 mm Hg at 300 C, 10 mm Hg at 486 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6189 Lung		ES	a) 12 b) 2 c) 3 d) 1 e) 1	a) Not given b) 0.6-6.3 ppm c) 1.3-23 ppm d) Not applicable e) Not applicable	a) 1.6 cor- 0.97 ppm b) 3.6 ppm c) 11.1 ppm d) 5.1 ppm e) 7.0 ppm Dry wt	a) Normal healthy men b) Chronic silicosis workers c) Chronic refractory workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS: BONES: HEART: LIVER: LUNGS: TESTES: THYROID GLANDS: TRACHEA: STOMACH: PANCREAS: SPLEEN: THYROID GLANDS: TRACHEA: ALIMENTARY: BARIUM: CALCIUM: COPPER: IRON: LEAD: CEFORUM: COBALT: COPPER: IRON: LEAD: MAGNESIUM: MANGANESE: METALS: POLYMER: NICKEL: PHOSPHORUS: SODIUM: SILICON: SILVER: SODIUM: TITANIUM: VANADIUM: ZINC: BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS: YACHTS: ZINCORUM: ELEMENTS	Tetsuka, H. 1981 Archives of Environmental Health 36(4):155-165
6190 Lymph node		ES	a) 3 b) 1 c) 3 d) 1 e) 1	a) Not given b) Not applicable c) 2.5-11 ppm d) Not applicable e) Not applicable	a) 2.5 cor- 0.70 ppm b) 0.6 ppm c) 2.5 ppm d) 9.4 ppm e) 24 ppm Dry wt	a) Normal healthy men b) Chronic refractory workers c) Airplane painter d) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS: BONES: HEART: LIVER: LUNGS: TESTES: THYROID GLANDS: TRACHEA: STOMACH: PANCREAS: SPLEEN: THYROID GLANDS: TRACHEA: ALIMENTARY: BARIUM: CALCIUM: COPPER: IRON: LEAD: CEFORUM: COBALT: COPPER: IRON: LEAD: MAGNESIUM: MANGANESE: METALS: POLYMER: NICKEL: PHOSPHORUS: SODIUM: SILICON: SILVER: SODIUM: TITANIUM: VANADIUM: ZINC: BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS: YACHTS: ZINCORUM: ELEMENTS	Tetsuka, H. 1981 Archives of Environmental Health 36(4):155-165
6191 Spleen		BA	63	0.08-0.53 ug/g	Not given	Range of mean, estimated from graph Awan, El Kharga, Assuit, Cairo, and Alexandria, Egypt EGYPT: ADULTS: AUTOPSIES: ADRENAL GLANDS: BONES: HEART: LIVER: LUNGS: TESTES: THYROID GLANDS: TRACHEA: STOMACH: PANCREAS: SPLEEN: THYROID GLANDS: TRACHEA: ALIMENTARY: BARIUM: CALCIUM: COPPER: IRON: LEAD: CEFORUM: COBALT: COPPER: IRON: LEAD: MAGNESIUM: MANGANESE: METALS: POLYMER: NICKEL: PHOSPHORUS: SODIUM: SILICON: SILVER: SODIUM: TITANIUM: VANADIUM: ZINC: BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS: YACHTS: ZINCORUM: ELEMENTS	Tetsuka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

7440-03-9

cd
atw 112.40, hp 321 c, bp 765 c, vp 1 80 kg at 190 c, 10 mmHg at 486 C

(CONTINUED)

[illegible]

(NEXT PAGE)

Cadmium
7400-83-9
Cd
ATN 112.40, MP 321 C, BP 745 C, VP 1 mm Hg at 398 C, 10 mm Hg at 486 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	BASE	DEAF	GENERAL INFORMATION	REFERENCE
6195 Stomach		ES	10	Not given	2.6 *or- 0.73 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; POLYMERUM; NICKEL; PHOSPHORUS; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZIRCONIUM; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36 (4): 155-165
6196 Thyroid gland		ES	4	Not given	1.9 *or- 1.4 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; POLYMERUM; NICKEL; PHOSPHORUS; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZIRCONIUM; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36 (4): 155-165
6197 Tongue		ES	2	Not given	0.80 *or- 0.24 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; POLYMERUM; NICKEL; PHOSPHORUS; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZIRCONIUM; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36 (4): 155-165

(NEXT PAGE)

STAIN	EXPOSURE ROUTE	ANALYTICAL METHOD	SAMPLE	SUBJECTS OF CASES	MEAN	CENTRAL INFORMATION	REFERENCE
6190 Trachea		ES	Not given	2	0.95 $\pm$ 0.22 ppb by wt	Normal tissue Autopsies Japan JAPAN: ADOLDS; ATROPHIES; ADRENAL GLANDS; AORTA; BONES; SPAST; TESTES; KIDNEYS; LIVER; LUNGS; THYROID; PANCREAS; STOMACH; SMALL INTESTINE; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TCM; ALCOHOLISM; ELEMENTS	Tateoka, H. 1981 Archives of Environmental Health 36(4):155-165
6199 Urine		MS	A) 0.85-61.6 ug/dl B) 1.4 $\pm$ 0.3 ug/dl C) 4.23-46.3 ug/dl Creatinine D) 0.33-12.3 ug/dl Creatinine	A) 66 B) 23 C) 59	A) 11.8 $\pm$ 0.1 3.36 ug/dl creatinine B) 1.4 $\pm$ 0.3 2.36 ug/dl creatinine C) 4.23-46.3 ug/dl creatinine D) 0.33-12.3 ug/dl creatinine	a) Cd workers, no renal dysfunction b) Cd workers with renal dysfunction c) Non-Cd workers at same Zn-Cd plant Mean employment period 17 (a), 27 (b) and 18 (c) yr. Mean exposure period 7.5 (a) and 21.2 yr (b). Exposure level 168 ug/cm ² (static samples) and 127 ug/cm ² (dynamic samples) (mean) for a and b, and 0.1-15 ug/cm ² for c Age of 244 workers with liver and renal cortical Cd levels above detection limits (10 and 50 ppb, respectively) Good correlation with body burden Active and retired workers at Zn-Cd plant, Folsom	Poole, H. Lavery, B.B. Fuchet, J.F. Bernard, A. Bernard, D.B. Barry, T.C. 1981 Environmental Research 26:217-240
6200 Urine			Not applicable	1	10.4 ug/g creatinine	renal dysfunction unlikely if urine level of 10 ug/g creatinine (160 ug body burden) is not regularly exceeded. Critical liver level 30-60 ppm. Critical renal cortical level 215-385 ppm BLOOD: ADOLDS; KIDNEY DISEASES; BLOOD; BONE; KIDNEYS; LIVER; URINE; IN VIVO ANALYSIS; CADMIUM; METALS; HEALTH HAZARDS; INDUSTRIAL; ATMOSPHERES; INSULATION; OCCUPATIONAL HAZARDS; SHELTERS	Gosse, P.P. Cassidy, P.P. 1981 British Journal of Industrial Medicine 38:169-186

--- PAGE ---

Cadmium
7440-43-9

Cd

Atv 112.80, BP 321 C, BP 765 C, Vb 1 mm Hg at 39m C, 10 mm Hg at 486 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6201 Urine		AAS	16	a) 0.5-6.5 ug/l b) 10.2 ug/l c) 7.3-21 ug/l	a) Not given b) 20.2 $\pm$ 10.4 ug/l c) 14.5 $\pm$ 3.8 ug/l	a) 11 subjects, exposed 1.8-12 mo b) 5 subjects, exposed 3-19 yr c) Same as b), 2 yr later Workers, Cd-pigment manufacturing plant, Australia Dyspnea, emphysema Renal tubular damage BLOOD: URINE: AUSTRALIA: CASE HISTORIES: INDUSTRIAL DISEASES: CADMIUM: METALS: INDUSTRIAL PLANTS: OCCUPATIONAL HAZARDS: POPULATION PHYSIOLOGY	De Silva, P.E. Donnan, R.B. 1981 British Journal of Industrial Medicine 38:76-86
6202 Urine			41	49-25 ug/l	Not given	Levels 1-9 yr after removal from exposure. Mean level during exposure 75 ug/l Range of means estimated from graph Patients with proteinuria following Cd exposure in factory KIDNEY DISEASES: UNITED KINGDOM: ADULTS: OCCUPATIONAL DISEASES: URINE: INDUSTRIAL MEDICINE: CADMIUM	Adams, B.G. 1991 Lancet 1(8220):845
6203 Urine		AAS	a) 39 b) 42 c) 43	a) 1.95-11.80 ug/g creatinine b) 1.3-20.6 ug/g creatinine c) 1.0-3.1 ug/g creatinine	a) Not given b) Not given c) Not given	a) Workers at Si-Cd battery plant, average workplace time 1.5 yr b) Workers at Zn-Cd smelter, average time 18.5 yr c) Controls. Median 1.9 ug/g creatinine 5-95 percentile range GERMANY: ADULTS: BLOOD: URINE: COMPARATIVE EVALUATIONS: INDUSTRIAL MEDICINE: CADMIUM: LEAD: RESPIRATORY: PROTEINS: HEALTH HAZARDS: INDUSTRIAL PLANTS: OCCUPATIONAL HAZARDS: SMelters	Schaller, K.H. Gonzalez, J. Thurau, J. Schleier, S. 1990 Zentralblatt fuer Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene, Abteilung 1, Germanische Medizin B, Hygiene, Parasitenkunde Medizin 171:320-335

1990-10-2
Ca
ALW 40.00, MP 650 C, DP 1000 C, VP 10 00 H2 at 983 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	CENTRAL INFORMATION	REFERENCE
6204 Adrenal gland		ES	7	Not given	56.0 ± or - 4.30 ppm dry wt	Normal tissue Autopsies Japan TOXIC: ZINCUM; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ACUTE: BONES; HEART; TESTES; KIDNEYS; LIVER; LYMPHATIC SYSTEM; GLANDS; TRACHEA; ALBUMEN; THYROID; CLAMIN; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION: HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Terada, R. 1981 Archives of Environmental Health 36(4):155-165
6205 Aorta		ES	7	Not given	7700 ± or - 4200 ppm dry wt	Normal tissue Autopsies Japan TOXIC: XIREONIUM; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ACUTE: BONES; HEART; TESTES; KIDNEYS; LIVER; LYMPHATIC SYSTEM; GLANDS; TRACHEA; STOMACH; THYROID; CLAMIN; CALCIUM; CHROMIUM; BARITH; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION: HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Terada, R. 1981 Archives of Environmental Health 36(4):155-165
6206 Blood, plasma	Ingestion	AAS	2	a) Not applicable b) Not applicable c) Not applicable d) 8.8-9.0 mg/100 ml	a) 8.8 mg/100 ml b) 9.6 mg/100 ml c) 8.8 mg/100 ml d) Not given	a) Subject 1, beginning of study b) Subject 1, intake 733 mg/24 hr, low fiber diet c) Subject 1, intake 768 mg/24 hr, high fiber diet d) Subject 2, fluctuation during study period, intake 772 mg/24 hr low fiber diet, 841 mg/24 hr high fiber diet Total dietary intake during two 20 day study periods with 50% of caloric intake from either white bread or local, high fiber, moderate phytate bread. 35 and 24 yr old, wt 56.0 & 60.3 kg. Iran TEAR: ADULTS; HISTOLOGICAL SPECIMENS: BLOOD PLASMA; BLOOD SPECIMENS: BLOOD PLASMA; BLOOD SPECIMENS: ZINC; DIETS; FIBERS; FOODS; METALS	Reinhold, J.-G. Paradi, B. Abadi, P. Issali-Begdi, P. 1976 Journal of Nutrition 106:493-503

PAGE 1

Calcium
7480-70-2
Ca
Atw 40.08, MP 850 C, BP 1440 C, VP 10 mm Hg at 983 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6207 Blood, plasma		AMS	a) 20 b) 20	a) Not given b) Not given	a) 2.3 $\pm$ 0.16 uaoL/l b) 2.3 $\pm$ 0.2 uaoL/l	a) Isolated case dialysis patients b) Home dialysis patients Clinically stable patients on intermittent dialysis > 6 months HYPOTHYROIDISM; KIDNEY DISEASES; CALCIUM; BILIRUBIN; PHOSPHORUS; BLOOD; BICOD PLASMA; ALBUMIN	Zakley, S. Bertrac, S.P. Graefe, G. Langer, K. 1980 Proceedings, University of Missouri Annual Conference on Trace Substances in Environmental Health 18:299-303
6208 Blood, serum		AMS	a) 26 b) 21 c) 52 d) 11 e) 10 f) 21 g) 12 h) 10 i) 10	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 86 $\pm$ 0.6 ppa b) 86 $\pm$ 0.6 ppa c) 86 $\pm$ 0.6 ppa d) 86 $\pm$ 0.6 ppa e) 88 $\pm$ 0.5 ppa f) 86 $\pm$ 0.5 ppa g) 87 $\pm$ 0.4 ppa h) 90 $\pm$ 0.6 ppa i) 130 $\pm$ 0.1 ppa	a) Lung and respiratory tract b) Gastrointestinal tract c) Carcin d) Lymphatic leukemia e) Malignant melanoma f) Hodgkin's lymphoma g) Healthy volunteers h) Geriatric patients i) Type of cancer ii, c), and d) significantly lower than a) and i) Cancer patients (45-8) yr old. Geriatric patients (65-81 yr old). Healthy volunteers (20-44 yr old). DE UNITED KINGDOM: CARCINOMAS; LEUKEMIA; MELANOMA; LYMPHOMA; SARCOMA; BLOOD; SILICON; TITANIUM; CHLORINE; MAGNESIUM; MANGANESE; RETALS; ZINC; POTASSIUM Normal tissue Autopsies Japan TONGUE; VISCERUM; ELEMENTS; JAPAN; ACTA; ANTIPODES; ADRENAL GLANDS; ACTA; BONES; HEART; INTESTINES; FIDET; LIVER; LUNGS; LYMPH NODES; SELEN; PANCREAS; STOMACH; TESTIS; GLANDS; THYROID; ALBUMIN; BILIRUBIN; CALCIUM; CHLORINE; COBALT; COPPER; CROMIUM; MANGANESE; RETALS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIODISPOSITION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Capel, I.D. Pincock, S.H. Williams, D.C. Williams, I.W.P. 1983 Oncology 39:38-41
6209 Bone		EM	5	Not given	9200 $\pm$ 9200 ppa dry wt		Tetacka, E. 1981 Archives of Environmental Health 36(4):155-165

(BET-2362)

Calc Ave
7400-70-2

20

APR 03.00, MP 050 C, SP 1000 C, VP 10 mm H₂O at 401 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SAMPLES OF CASES	BLOOD	MEAN	GENERAL INFORMATION	REFERENCE
6210 Bone		ES	1 M 2 F 3 F 4 F 5 F 6 F	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable	a) 2M b) 35X c) 25X d) 26X e) 31X dry wt	a) Mandible, Nacsa Megra site, recently exposed, pre-catastic, pre-metalurgical, date 4500-3000 yr before present (bp) b) Femur, Gusaape cemetery, specimens exposed on surface 30 yr, post-catastic, proto-metalurgical, date 3000-2500 yr bp c) Mandible, Nacsa Gallienus site, metalurgical, date 2800-1900 bp d) Mandible, another person, site c) e) Vertebra, assay of healthy female Egyptian, Ptolemaic period, 2200 yr bp Petravians was 310(f-8), compared to 2100-3500(10f-8) in bones of present-day residents of England and the United States Ratio of Ba to Ca was 2-3(10f-8) in bones of ancient Petrivians and present-day Americans Specimens from Wira Valley, Nara and Egypt EGYPT: DESO; UNITED KINGDOM: HEVIES STATES; ROMER; TETIS; BARBER; CALCIUM; LEAD; BIOACCUMULATION	Zickmon, J.E. Shikata, H. Patterson, C.C. 1979 see England Journal of Medicine 380(11):1946-951
6211 Heart		ES	1 M 2 F 3 F 4 F 5 F 6 F	a) Not given b) 1400-2100 ppm c) 1900-4000 ppm d) Not applicable e) Dry wt	a) 660 + or - 530 ppm b) 1750 ppm c) 2767 ppm d) 2200 ppm e) 1100 ppm Dry wt	a) Normal healthy man b) Chromate plating worker c) Chromate refinishing workers d) Triplicate e) Same as case Autopsies Japan TCMOGE; ZINCORION; ELEMENTS; JAPAN: ACOLTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNG; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; UTERUS; CANNULI; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIIE; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Takaka, H. 1981 Archives of Environmental Health 36(4):155-165
6212 Intestine		ES	10	Not given	1300 + or - 420 ppm dry wt	Normal tissue Autopsies Japan TCMOGE; ZINCORION; ELEMENTS; JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNG; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; UTERUS; CANNULI; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIIE; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Takaka, H. 1981 Archives of Environmental Health 36(4):155-165

NEXT PAGE)

Calculus
7440-70-2

Ca
Mw 90.08, mp 850 C, bp 1440 C, vp 10 mm Hg at 983 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6213 Kidney		ES	a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) 1700-3100 ppm c) 2200-4100 ppm d) Not applicable e) Not applicable Dry wt	a) 1500 $\pm$ 1200 ppm b) 3400 ppm c) 3367 ppm d) 2500 ppm e) 1000 ppm Dry wt	a) Normal men b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone wash Autopsies Japan TONGUE: ZINC; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ACETA: KIDNEY; HEART; INTESTINES; KIDNEY: LIVER; LUNG; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID; GLANDS; TRACHEA; ALBUMIN; BARIUM; COPPER; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; MANGANESE; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6214 Liver		PC	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) 1400-2500 ppm c) 2500-4700 ppm d) Not applicable e) Not applicable Dry wt	a) 610 $\pm$ 330 ppm b) 1950 ppm c) 3667 ppm d) 2100 ppm e) 740 ppm Dry wt	a) Normal healthy men b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone wash Autopsies Japan TONGUE: ZINC; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ACETA: KIDNEY; HEART; INTESTINES; KIDNEY: LIVER; LUNG; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID; GLANDS; TRACHEA; ALBUMIN; BARIUM; COPPER; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; MANGANESE; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6215 Lung		ES	a) 12 b) 4 c) 3 d) 1 e) 1	a) Not given b) 1700-1930 ppm c) 9400-13000 ppm d) Not applicable e) Not applicable Dry wt	a) 1100 $\pm$ 850 ppm b) 1800 ppm c) 4033 ppm d) 2400 ppm e) 850 ppm Dry wt	a) Normal men b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone wash Autopsies Japan TONGUE: ZINC; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ACETA: KIDNEY; HEART; INTESTINES; KIDNEY: LIVER; LUNG; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID; GLANDS; TRACHEA; ALBUMIN; BARIUM; COPPER; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; MANGANESE; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

Calcium
7840-70-2
CM

AW 80.06, BP 850 C, PP 1840 C, VP 10 mm Hg at 463 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6216 Lymph node		ES	a) 3 b) 1 c) 3 d) 1 e) 1	a) Not given b) Not applicable c) 180-380 ppm d) Not applicable e) Not applicable Dry wt	a) 1000 $\pm$ 250 ppm b) 2700 ppm c) 2031 ppm d) 2100 ppm e) 5600 ppm Dry wt	a) Normal healthy men b) Chromate refining workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan TONGUE: TIRCONIUM; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; INTESTINES; KIDNEYS: LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALBUMEN; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COFFEE; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION: HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tsutsuka, H. 1981 Archives of Environmental Health 36 (4): 155-165
6217 Pancreas		ES	5	Not given	180 $\pm$ 74 ppm dry wt	Normal tissue Autopsies Japan TONGUE: TIRCONIUM; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; INTESTINES; KIDNEYS: LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALBUMEN; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COFFEE; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION: HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tsutsuka, H. 1981 Archives of Environmental Health 36 (4): 155-165
6218 Spleen		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) 1400-2700 ppm c) 1200-6200 ppm d) Not applicable e) Not applicable Dry wt	a) 720 $\pm$ 500 ppm b) 2050 ppm c) 3267 ppm d) 3500 ppm e) 730 ppm Dry wt	a) Normal men b) Chromate refining workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan TONGUE: TIRCONIUM; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; INTESTINES; KIDNEYS: LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALBUMEN; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COFFEE; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION: HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tsutsuka, H. 1981 Archives of Environmental Health 36 (4): 155-165

(NEXT PAGE)

ANAL. Calcd. for $C_{10}H_{10}O$: C, 88.10%; H, 7.41%. Found: C, 88.00%; H, 7.40%. IR (KBr): ν_{max} 1640 cm⁻¹. ¹H NMR (CDCl₃): δ 7.1 (d, 2H, J = 10 Hz), 6.8 (d, 2H, J = 10 Hz), 6.5 (t, 2H, J = 10 Hz), 6.2 (t, 2H, J = 10 Hz), 5.8 (t, 2H, J = 10 Hz), 5.5 (t, 2H, J = 10 Hz), 5.2 (t, 2H, J = 10 Hz), 4.9 (t, 2H, J = 10 Hz), 4.6 (t, 2H, J = 10 Hz), 4.3 (t, 2H, J = 10 Hz), 4.0 (t, 2H, J = 10 Hz), 3.7 (t, 2H, J = 10 Hz), 3.4 (t, 2H, J = 10 Hz), 3.1 (t, 2H, J = 10 Hz), 2.8 (t, 2H, J = 10 Hz), 2.5 (t, 2H, J = 10 Hz), 2.2 (t, 2H, J = 10 Hz), 1.9 (t, 2H, J = 10 Hz), 1.6 (t, 2H, J = 10 Hz), 1.3 (t, 2H, J = 10 Hz), 1.0 (t, 2H, J = 10 Hz), 0.7 (t, 2H, J = 10 Hz), 0.4 (t, 2H, J = 10 Hz), 0.1 (t, 2H, J = 10 Hz).

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6219 Stomach		ES	10	Not given	1300 ± or - 420 ppm dry wt	Normal tissue Autopsies Japan TCMGRE; ZINCURIUM; ELEMENTS; JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; ACFTA; BOWES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALBUMIN; BARIUM; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; ZIRCONIUM; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tateoka, H. 1981 Archives of Environmental Health 36(4):155-165
6220 Teeth		MS	a) 1 b) 1 c) 1 d) 1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) JaG b) 28K c) JaG d) 32K Dry wt	a) Naka Nagata site, recently exposed, pre-Ceramic, pre-metalurgical, date 4500-3000 yr before present (bp) b) Ganga cemetery, specimens exposed on surface 30 yr, date 2000-1500 yr bp c) Naka Nagata site, metalurgical, date 2000-1500 yr bp d) Another person, site c) Faseel Specimens from Viru Valley, Peru	Ericson, J.E. Shirahata, H. Patterson, C.C. 1979 New England Journal of Medicine 300(17):946-951
6221 Thyroid gland		ES	4	Not given	2600 ± or - 850 ppm dry wt	Normal tissue Autopsies Japan TCMGRE; ZINCURIUM; ELEMENTS; JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; ACFTA; BOWES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALBUMIN; BARIUM; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; ZIRCONIUM; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tateoka, H. 1981 Archives of Environmental Health 36(4):155-165
6222 Tongue		ES	2	Not given	700 ± or - 71 ppm dry wt	Normal tissue Autopsies Japan TCMGRE; ZINCURIUM; ELEMENTS; JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; ACFTA; BOWES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALBUMIN; BARIUM; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; ZIRCONIUM; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tateoka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

Calcium
7400-70-2
CA
RW 40-08, NP 850 C, BP 1440 C, VP 10 mg/kg at 983 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6223 Tissue		ES	2	Not given	5000 $\pm$ 2500 ppm dry wt	Normal tissue Autopsies Japan TONGUE: EPIGLOTTIC; EPIGLOTTIC; JAW; ADULTS: ADIPOSITY; ADIPOSITY; ADIPOSITY; FOETI: FETUS; HEART; LIVER; LIVER; FIBROSIS; LIVER; LIVER; LIVER; LIVER; SILVER: PARACETAMOL; STOMACH; STOMACH; GLANDS: TRACHEA; ALONINON; BARIUM; CAMBIO: CALCIUM; CHROMIUM; COMBLY; COPPER: IRON; LEAD; MAGNESIUM; MANGANESE; STRALSI; MANGANESE; SILVER: PARACETAMOL; STOMACH; XIN: TITANIUM; VANADIUM; ZINC; BIOCALCIFICATION; HEALTHY HARVEST; OCCUPATIONAL HARVESTS	Tereoka, R. 1961 Section of Nutritional Health 36 (4):155-165
6224 Urine	Ingestion	AAS	2	a) Not given b) Not given c) Not given d) Not given	a) 154 mg/24 hr b) 99 mg/24 hr c) 107 mg/24 hr d) 128 mg/24 hr	a) Subject 1, intake 733 mg/24 hr, low fiber diet b) Subject 1, intake 786 mg/24 hr, high fiber diet c) Subject 2, intake 772 mg/24 hr, low fiber diet d) Subject 2, intake 841 mg/24 hr, high fiber diet Total dietary intake Means of 10 2-day periods 50% caloric intake from white bread In a) and c) and from high fiber, acetic acid phytate local bread in b) and d) Both subjects in negative balance on high fiber diet 35 and 24 yr old, wt 56.0 & 60.3 kg, Iran IRAN: ADULTS; NUTRITIONAL EFFICIENCY; BLOOD PLASMA; BLOOD SILVER; URINE; CALCIUM; MAGNESIUM; IRON; PHOSPHORUS; ZINC; BIRTS; FIBERS; FIBERS; METALS	Reinhold, J.D. Paradi, S. Raddi, S. 1974 Journal of Nutrition 106:493-503

Carbamide, trichloro- (8 CI)
Urea, N,N'-diphenyl-, trichloro deriv. (9 CI)
1332-40-3
C13-89-C13-B2-0
RW 315.6

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6225 Blood, plasma	Ingestion	NP LC Radiochemistry	3	a) 0.18-3.7 ngole/kg/g b) 0.27-0.003 ngole/kg/g	a) Not given b) Not given	a) Total TCC - derived compounds, and 2.8 hr after 2.2-2.4 mg/kg plasma measurement 1.1 mg/kg/g at about 32 hr b) TCC, at 1 and 24 hr after 2.2-2.4 mg/kg Range of means, estimated from graph Data also for individual metabolites Healthy 20-40 yr olds ADULTS; BLOOD PLASMA; URINE; COSMETICS; METABOLITES; RADIOISOTOPES	Siles, R.A. Birch, C.G. 1978 Drug Metabolism and Disposition 6 (2):177-183

(NEXT PAGE)

Carbonilide, trichloro- (8 CI)
 Orem, R. H.-diphenyl-, trichloro deriv. (9 CI)
 1332-80-3
 C13-89-C13-W2-0
 MW 315.6

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6226 Urine	Ingestion	Radioisotopy HPLC	6	22.7-41% of labelled dose	27.0 $\pm$ 2.8% of labelled dose S.E.	Maximal cumulative excretion 80 hr after 1.9-2.8 mg/kg Healthy 20-40 yr olds ADULTS: BLOOD PLASMA: URINE: COSMETICS: METABOLITES: RADIONUCLIDES	Hiles, R.A. Bischof, C.G. 1978 Metabolism and Disposition 6(2):177-183

Carbon disulfide
 75-15-0
 C-S2
 MW 76.14, BP -110.8 C, BP 46.5 C, VP 600 mm Hg at 20 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6227 Urine	Inhalation	Colorimetry		a) 3.8-9.1 μ mol/mol creatinine b) 4.8-6.7 μ mol/mol creatinine c) 8.7-20.8 μ mol/mol creatinine d) 5.7-6.2 μ mol/mol creatinine e) 1.2-1.4 μ mol/mol creatinine f) 9.3-24.1 μ mol/mol creatinine	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable	a) Chemical plant workers not exposed to CS ₂ , 69 samples b) Viscose plant workers, closed process spinning, 56 samples c) Viscose plant workers, open process spinning, 78 samples d) Workers exposed to 10 mg CS ₂ /cm ³ at plant, 8 samples e) Workers exposed to 50 mg CS ₂ /cm ³ at plant, 12 samples f) Workers exposed to 100 mg CS ₂ /cm ³ at plant, 60 samples Total valid samples. Levels for pre-workshift and end of workshift. Measured as this compound (metabolites) Range of means Rayon plant workers, The Netherlands BUTTERFLEDS; URINE: CARBON DISULFIDE COMPOUND: SULFUR: INDUSTRIAL ATMOSPHERE: AIR: TRIAL PLANTS: IRRADIATION: METABOLITES: OCCUPATIONAL EXPOSURE	van Boer, R. Lefjeters, C.P., M.J.M. Henderson, R. Vanhoose, R. Fertin, P.G. 1981 Archives of Environmental Health 36(4):289-297

Carbon monoxide
 630-08-0
 MW 28.01, BP -205 C, BP -191.5 C, VP 10 mm Hg at -215 C, 103 mm Hg at -205.7 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6228 Blood	Inhalation	GC	a) 104 b) 184 c) 1 d) 1	a) 0.05-2.00 μ l/l b) 0.10-1.70 μ l/l c) Not applicable d) Not applicable	a) Not given b) Not given c) 0.130 $\pm$ 0.0066 d) 1.303 $\pm$ 0.322 e) 1.303 $\pm$ 0.322 f) 1.303 $\pm$ 0.322 g) 1.303 $\pm$ 0.322 h) 1.303 $\pm$ 0.322 i) 1.303 $\pm$ 0.322 j) 1.303 $\pm$ 0.322 k) 1.303 $\pm$ 0.322 l) 1.303 $\pm$ 0.322 m) 1.303 $\pm$ 0.322 n) 1.303 $\pm$ 0.322 o) 1.303 $\pm$ 0.322 p) 1.303 $\pm$ 0.322 q) 1.303 $\pm$ 0.322 r) 1.303 $\pm$ 0.322 s) 1.303 $\pm$ 0.322 t) 1.303 $\pm$ 0.322 u) 1.303 $\pm$ 0.322 v) 1.303 $\pm$ 0.322 w) 1.303 $\pm$ 0.322 x) 1.303 $\pm$ 0.322 y) 1.303 $\pm$ 0.322 z) 1.303 $\pm$ 0.322	a) Worker method. Smokers and nonsmokers exposed to various levels of CO to produce range of expected carboxyhemoglobin values b) Gasometric method. Exposed as in a) c) Gasometer d) Smoker e) 4) mean of 10 determinations CARBON MONOXIDE; BLOOD; MEASUREMENT METHODS: CARBON MONOXIDE COMPOUNDS; SMOKING	Dumas, T.E. Moravath, S.A. 1978 Clinical Chemistry 28(5):533-537

Carotenes and Carotenoids
34-88-B
EFFECT COMPOSITION UNKNOWN OR UNDETERMINED

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6229 Blood, serum			6	a) 1.50-6.90 ug/al b) 1.60-6.10 ug/al	a) 3.88 $\pm$ 0.10 b) 3.70 $\pm$ 0.90 10/al	a) Before hemodialysis b) After 6 hr hemodialysis Mean values 11.93/101 Significant change after hemodialysis Patients with chronic anemia CAROTENOIDS: KIDNEY DISEASES: BLOOD SERUM: HEMODIALYSIS: VITAMIN A: ISRAEL	Gottlieb, L. Kline, R. Kline, W. 1978 Journal of the American Medical Association 239(8):751

Cesnia
7840-86-2
Ca
Atw 132.40%, HP 28.5 C, BP 705 C, VP 1 mEq at 279 C, 10 mEq at 371 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6230 Hair		HA	30	5-32 ng/g	Not given	Range of means, estimated from graph Awan, El Karga, Assuit, Cairo, and Alexandria, Egypt EGYPT: HAIR: NAILS: ANTIMONY: COPPER: CHROMIUM: COBALT: IRON: MANGANESE: METALS: POLYMER: SCANDIUM: SELENIUM: SILVER: TUNGSTEN: ZINC: DRINKING WATER: POPULATION EXPOSURE: SOILS: URBAN AREAS	Kasprzak, K. Langer, G. V. Pekasdegen, L. E. Sachish, S. Nahou, R. Science of the Total Environment 22:149-168
6231 Hair		HA	35	16-72 ng/g	Not given	Range of means, estimated from graph Awan, El Karga, Assuit, Cairo, and Alexandria, Egypt EGYPT: HAIR: NAILS: ANTIMONY: COPPER: CHROMIUM: COBALT: IRON: MANGANESE: METALS: POLYMER: SCANDIUM: SELENIUM: SILVER: TUNGSTEN: ZINC: DRINKING WATER: POPULATION EXPOSURE: SOILS: URBAN AREAS	Kasprzak, K. Langer, G. V. Pekasdegen, L. E. Sachish, S. Nahou, R. 1982 Science of the Total Environment 22:149-168

Chlorine

712-50-5

MW 35.453, BP -101 C, BP -34.05 C, VP 4800 mm Hg at 20 C, 1 mm Hg at -123 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6232 Hair		HA		a) 52-2260 ppm b) 31-1540 ppm c) 47-992 ppm	a) 532 ±or- 434 ppm b) 472 ±or- 432 ppm c) 247 ±or- 228 ppm	4) 12 cm length, 50 samples b) Post section, 18 samples c) Distal section, 18 samples Metropolitan Bombay, India INDIA: ADOLESCENTS: ADULTS: HAIR: ANTHROP: ARSENIC: BROMINE: CADMIUM: CHLORINE: CHROMIUM: COBALT: COPPER: COPPER: CHROMIUM: COBALT: COPPER: MANGANESE: MOLYBDENUM: NICKEL: SILICON: SILVER: SODIUM: ZINC: AIR ICOLLATION: BIOACCUMULATION: FOSSIL FOSSIL POWER PLANTS: INDUSTRIAL AREAS: INDUSTRIAL ATMOSPHERES: INDUSTRIAL EMISSIONS: INDUSTRIAL FACILITIES: POPULATION EXPOSURE: URBAN AREAS: INDUSTRIAL CHEMICALS	Shat, K.B. Venkatesh, J. Venkatesh, S. Gangadharan, S. 1982 Science of the Total Environment 22:169-170

Chloroform (9 CI)

67-66-3

C-8-Cl3

MW 119.39, BP -63.5 C, VP 100 mm Hg at 10.4 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
4233 611k		GC/MS	42	a) Not detected-1.3 ng/ml b) 1.7-65 ng/ml c) 0.6-5.7 ng/ml d) 0.6-1.3 ng/ml e) 5.0-1.3 ng/ml f) Not detected-65 ng/ml	a) 0.52 ±or- 3.48 ng/ml b) 23.34 ±or- 24.3 ng/ml c) 53 ±or- 1.74 ng/ml d) 3.09 ±or- 6.34 ng/ml e) 7.21 ±or- 3.55 ng/ml f) 5.57 ±or- 10.9 ng/ml	a) Bayonne, NJ, 6 samples b) Jersey City, NJ, 5 samples c) Pittsburgh, PA, 12 samples d) Baton Rouge, LA, 10 samples e) Charleston, WV, 9 samples f) Total (a-f) Due to small sample size and extrapolated to other population Study measured environmental pollutants in milk, evaluated using silk in pollutant studies near chemical manufacturing plants and/or industrial facilities. Additional data, U.S. and foreign, reviewed. for additional information contact Environmental Protection Agency, Health Evaluation Division, Office of Toxic Substances, Washington, DC 20461 Lactating volunteers, residing in area >12 mi, no travel out of area during preceding wk LOUISIANA: NEW JERSEY: PENNSYLVANIA: WEST VIRGINIA: ADULTS: MILK: CHLORINE: CHROMIUM: COBALT: COPPER: COPPER: CHROMIUM: COBALT: COPPER: MANGANESE: MOLYBDENUM: NICKEL: SILICON: SILVER: SODIUM: ZINC: AIR ICOLLATION: BIOACCUMULATION: FOSSIL FOSSIL POWER PLANTS: INDUSTRIAL AREAS: INDUSTRIAL ATMOSPHERES: INDUSTRIAL EMISSIONS: INDUSTRIAL FACILITIES: POPULATION EXPOSURE: URBAN AREAS: INDUSTRIAL CHEMICALS: SOLVENTS	Richards, W.D. Harris, B.S.R., III Pellizzari, E.D. Tosor, K.B. Maddell, B.D. Whitaker, D.A. 1980 EPA 560/13-80-029, 153 pp.

Cholesta-5,22-dien-3beta-ol (6 CI)
 Cholesta-5,22-dien-3-ol, (3beta)- (9 CI)
 564-888-2
 C27-888-0
 MW 386.71

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6236 Blood, cells	Ingestion	TLC GC/MS	3	1.3-2.7 ug/g	2.2 ug/g	Total noncholesterol sterols in diet, 383 mg/day for 3-4 wk (2 subjects) or 8 wk (1 subject). Total sterols in diet, 638 mg/day 2 normal men, one 66 yr old hypercholesterolemic woman ADULTS: BLOOD PLASMA: XENTROCTYTES; CHOLESTEROLS; DIETS; FOODS	Conner, W.E. Lib, D.S. 1981 Gastroenterology 81:276-284
6235 Blood, plasma	Ingestion	TLC GC/MS	9	1.0-16.5 ug/ml	6.4 ug/ml	Total noncholesterol sterols in diet, 282 mg/day for 3-4 wk (2 subjects) or 8 wk (1 subject). Total sterols in diet, 447 mg/day or 638 mg/day 8 normal 23-47 yr old men, 1 hypercholesterolemic 66 yr old woman ADULTS: BLOOD PLASMA: XENTROCTYTES; CHOLESTEROLS; DIETS; FOODS	Conner, W.E. Lib, D.S. 1981 Gastroenterology 81:276-284

Cholesterol (6 CI)
 Cholest-5-en-3-ol (3beta)- (9 CI)
 C27-886-0
 MW 386.64, MP 148.5 C (anhydrous), BP 213 C at 0.5 mm Hg, 140 C at 760 mm Hg (some decomp)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6236 Blood, cells	Ingestion	TLC GC/MS	3	898-987 ug/g	940 ug/g	Total noncholesterol sterols in diet, 383 mg/day for 3-4 wk (2 subjects) or 8 wk (1 subject). Total sterols in diet, 638 mg/day 2 normal men, one 66 yr old hypercholesterolemic woman ADULTS: BLOOD PLASMA: XENTROCTYTES; CHOLESTEROLS; DIETS; FOODS	Conner, W.E. Lib, D.S. 1981 Gastroenterology 81:276-284
6237 Blood, plasma	Ingestion	TLC GC/MS	9	1346-4287 ug/ml	2076 ug/ml	Total noncholesterol sterols in diet, 282 mg/day for 3-4 wk (2 subjects) or 383 mg/day for 3-4 wk (2 subjects) or 8 wk (1 subject). Total sterols in diet, 447 mg/day or 638 mg/day 8 normal 23-47 yr old men, 1 hypercholesterolemic 66 yr old woman ADULTS: BLOOD PLASMA: XENTROCTYTES; CHOLESTEROLS; DIETS; FOODS	Conner, W.E. Lib, D.S. 1981 Gastroenterology 81:276-284

at 51.996, MP 1500 C, BP 2642 C, VP 1 mm Hg at 1616 C, 10 mm Hg at 1840 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	REAR	GENERAL INFORMATION	REFERENCE
6236 Aorta		ES	7	Not given	3-4 sec - 2.8 ppm dry wt	Normal tissue autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVERS; LUNGS; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYROID; UTERUS; VAGINA; VULVA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; NICKEL; POTASSIUM; SODIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICOLOGY; ELEMENTS	Yasuda, H. 1991 Archives of Environmental Health 36(4):155-165
6239 Blood	Dermal	AMS	3	a) Not applicable b) Not applicable	a) 220 ug/100 ml b) 110 ug/100 ml	a) 8 days after falling in vat of chromic acid at 62 C b) After 85 hr of peritoneal dialysis, 8 days after accident 18 yr old industrial worker 2nd and 3rd degree burns on 20% body surface Acute renal failure, hypotension, coagulate abnormalities, pulmonary edema, mild hepatic damage, severe anis, low grade fever METAL POISONING: BLOOD; CHROMIUM; PTALS; INDUSTRIAL ACCIDENTS	Schliff, H. Weissman, P. Weiss, M. Masary, S.G. 1982 Mineral and Electrolyte Metabolism 7:28-35
6240 Pons		ES	5	Not given	<0.0 ppm dry wt	Normal tissue autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVERS; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYROID; UTERUS; VAGINA; VULVA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; NICKEL; POTASSIUM; SODIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICOLOGY; ELEMENTS	Yasuda, H. 1991 Archives of Environmental Health 36(4):155-165
6241 Hair		BA	37	0.25-0.95 ug/g	Not given	Range of means, obtained from graph Awan, El Khayia, Assuit, Cairo, and Alexandria, Egypt EGYPT: HAIR; BATHS; ARTISANS; CADMIUM; CESIUM; CHROMIUM; COBALT; IRON; MANGANESE; METALS; POLYMERIZATION; SCANDIUM; STRONTIUM; SILVER; TUNGSTEN; ZINC; DRINKING WATER; POPULATION; TOXICOLOGY; SOILS; OPEN AREAS	Isaacs, E. Yong, G.V. Folander, L.E. Rahim, S. Rahim, S. 1992 Science of the Total Environment 22:109-109

(PAGE)

chronic
7440-47-3

CE
1-800-666-6666

7400-97-3
C₂ 18 51.996, HD 1900 C. 29 262 C. VP 1 18 19 at 1615 C. 10 28 24 at 1840 C

10271115

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6282 Hair		HA		a) 0.09-3.3 ppm b) 0.17-3.3 ppm c) 0.18-4.6 ppm d) 0.1-1.7 ppm	a) 0.43 *or- 0.56 ppm b) 1.03 *or- 0.97 ppm c) 0.94 *or- 1.16 ppm d) 0.47 *or- 0.38 ppm	a) 12 cm length, 16 samples b) Root section, 16 samples c) Hair cut, 16 samples d) Students in al. 24 samples Metropolites Bombay, India INDIA; ADOLESCENTS; ADULTS; HAIR; ARTISANS; ASBESTIC; BRONITIS; CADMIUM; CROIPING; CHROMIUM; COBALT; COPPER; GLD; IODINE; IRON; LACERATION; MANGANESE; MARGANES; METALS; SMITHING; SILVER; SODIUM; ZINC; AIR POLLUTION; BIOACCUMULATION; FOSSIL FUELED POWER PLANTS; INDUSTRIAL APRIS; INDUSTRIAL ATMOSPHERES; INDUSTRIAL EMISSIONS; INDUSTRIAL POLLUTION; POPULATION EXPOSURE; URBAN APRIS; INDUSTRIAL CHEMICALS	Bhat, K.B. Atmashale, J. Yagnashekaras, S. Gangadharan, S. 1982 Science of the Total Environment 22:169-176
6283 Heart		ES	a) 6 b) 2 c) 3 d) 1 e) 1	a) Not given b) 1.5-2.5 ppm c) 0.18-2.8 ppm d) Not applicable e) Not applicable Dry wt	0.73 *or- 0.58 ppm a) 2.2 ppm CI 1.5 ppm b) 0.54 ppm c) 0.20 ppm Dry wt	General healthy men b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone sealer Autopsies Japan JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVERSTIMES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALBUMIN; BARIUM; CADMIUM; CALCIUM; CEPHALUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; POLYMERISM; MERCURY; SILVER; SODIUM; ZINC; AIR POLLUTION; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICOLOGY; ZINC; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6288 Intestine		ES	10	Not given	1.3 *or- 0.49 ppm dry wt	General time Autopsies Japan JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVERSTIMES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALBUMIN; BARIUM; CADMIUM; CALCIUM; CEPHALUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; POLYMERISM; MERCURY; SILVER; SODIUM; ZINC; AIR POLLUTION; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICOLOGY; ZINC; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

— PAGE —

chromium
7440-47-3

13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
8

ATW 51.996, MP 1900 C, BP 2682 C, VP 1 88 Hg at 1616 C, 10 88 Hg at 1840 C

(Continued)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6285 Kidney		ES	a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) 0.82-1.7 ppm c) 0.29-1.8 ppm d) Not applicable e) Not applicable Dry wt	a) 0.45 *or- 0.42 ppm b) 1.26 ppm c) 0.80 ppm d) 0.93 ppm e) 0.93 ppm Dry wt	Normal healthy men b) Chromium plating workers c) Chrome refinining workers d) Airplane painter e) Stone mason Autopsies Japan	Tetsuka, R. 1961 Archives of Environmental Health 36(4):155-165
6286 Liver		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) 1.2-4.6 ppm c) 1.0-1.5 ppm d) Not applicable e) Not applicable Dry wt	a) 0.53 *or- 0.34 ppm b) 3.9 ppm c) 1.3 ppm d) 0.41 ppm e) 0.43 ppm Dry wt	Normal healthy men b) Chromium plating workers c) Chrome refinining workers d) Airplane painter e) Stone mason Autopsies Japan	Tetsuka, R. 1961 Archives of Environmental Health 36(4):155-165
6287 Liver		BA	30	0.005-0.27 ug/g Wet wt	Not given	Category I (first priority elements) as determined by Toxicology Workshop on Monitoring Environmental Materials and Specimen Banking Autopsies, Baltimore, MD Baltimore, MD, and Seattle, WA	Harrison, S.H. Winkler, R. Winkler, S.A. 1981 EPA 600/S1-81-025, 6 PF.

70277 PAGE

Chronicle
7440-47-3

33

¹H NMR (CDCl₃) δ 5.196, mp 1900 °C, bp 2642 °C, vp 1 mm Hg at 1616 °C, 10 mm Hg at 1840 °C.

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6208 Lung		ES	a) 12 b) 2 c) 1 d) 1 e) 1	a) Not given b) 10-100 ppm c) 50-110 ppm d) Not applicable e) Not applicable Dry wt	a) 1.4 sec - 0.70 ppm b) 810 ppm c) 99 ppm d) 12 ppm e) 2.3 ppm Dry wt	Normal healthy men b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone asbest Asbestos Japan JAPAN; ADULTS; AUTOPTISIES; ADRENAL GLANDS; MORTAL; BONES; HEART; TESTESTES; THYROID; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TUNGSTEN; VANADIUM; ZINC; TOXICITY; OCCUPATIONAL HAZARDS; TOXICS; SUBCOMING; ELEMENTS	Takahata, H. 1981 Archives of Environmental Health 36(4):155-165
6209 Lymph node		ES	a) 3 b) 1 c) 3 d) 1 e) 1	a) Not given b) Not applicable c) 57-220 ppm d) Not applicable e) Not applicable Dry wt	a) 0.2 sec - 2.5 ppm b) 2400 ppm c) 152 ppm d) 33 ppm e) 4.2 ppm Dry wt	Normal healthy men b) Chromate plating worker c) Chromate refining workers d) Airplane painter e) Stone asbest Asbestos Japan JAPAN; ADULTS; AUTOPTISIES; ADRENAL GLANDS; MORTAL; BONES; HEART; TESTESTES; THYROID; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TUNGSTEN; VANADIUM; ZINC; TOXICITY; OCCUPATIONAL HAZARDS; TOXICS; SUBCOMING; ELEMENTS	Takahata, H. 1981 Archives of Environmental Health 36(4):155-165
6250 Hair		HA	53	0.95-3.25 ug/g	Not given	Range of means, estimated from graph Assua, El Kharga, Assuit, Cairo, and Alexandria, Egypt EGYPT; HAIR; BAILS; ARTISTRY; CADMIUM; CASIUM; CHROMIUM; COBALT; IRON; MANGANESE; METALS; MOLYBDENUM; SCANDIUM; STRONTIUM; SILVER; TUNGSTEN; ZINC; DRINKING WATER; POPULATION EXPOSURE; SOILS; URBAN AREAS	Kaparch, K. Pyunat, G. Rachid, A. Rachid, A. Rachid, A. 1982 Science of the Total Environment 22:149-160

PAGE

Chromluc
7400-07-3
CZ
NEW 51.996

mp 51.996, bp 1900 C, bp 2642 C, vp 1 mm Hg at 1616 C, 10 mm Hg at 1040 C

(CONTINUED)

TISSUE	REFERENCE CODE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6251 Pancreas	ES		5	Not given	0.54 $\pm$ 0.10 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; PANCREAS; SPLEEN; TESTES; THYROID GLANDS; THYMUS; UTERUS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYMUS; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; RETALS; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TENSURE; ZINC; ZINC; ZINC	Yoshida, H. 1981 Archives of Environmental Health 36 (4): 155-165
6252 Spleen	ES		a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) 1.9-4.2 ppm c) 0.31-1.5 ppm d) Not applicable e) Not applicable dry wt	a) 0.52 $\pm$ 0.10 ppm b) 3.0 ppm c) 0.94 ppm d) 0.71 ppm e) 0.82 ppm dry wt	Normal healthy sea b) Chronic fishing workers c) Chronic refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; PANCREAS; SPLEEN; TESTES; THYROID GLANDS; THYMUS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYMUS; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; RETALS; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TENSURE; ZINC; ZINC; ZINC	Yoshida, H. 1981 Archives of Environmental Health 36 (4): 155-165
6253 Stomach	ES		10	Not given	1.1 $\pm$ 0.09 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; PANCREAS; SPLEEN; TESTES; THYROID GLANDS; THYMUS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYMUS; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; RETALS; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TENSURE; ZINC; ZINC; ZINC	Yoshida, H. 1981 Archives of Environmental Health 36 (4): 155-165

1 PART

Chronus
7440-07-3
CE
NEW 51.990

MP 51.596, BP 1900 C, VP 1 mm Hg at 1616 C, 10 mm Hg at 1840 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
625a Thyroid gland		ES	4	Not given	0.5a ear- 0.3a ppa dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPHATIC SYSTEM; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ELEMENTS	Tsutsuka, H. 1981 Archives of Environmental Health 36 (4): 155-165
6255 Tongue		ES	2	Not given	0.62 ear- 0.42 ppa dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPHATIC SYSTEM; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ELEMENTS	Tsutsuka, H. 1981 Archives of Environmental Health 36 (4): 155-165
6256 Trachea		ES	2	Not given	1.7 ear- 1.3 ppa dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPHATIC SYSTEM; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ELEMENTS	Tsutsuka, H. 1981 Archives of Environmental Health 36 (4): 155-165

----- PAGE -----

CI
MW 51.996, MP 1900 C, BP 1 mm Hg at 1616 C, 10 mm Hg at 1950 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SOURCE OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6257 urine	Inhalation		43 13 44 7 45 9 46 7 47 10 48 10 49 10 50 15 51 63	a) 4-11 ug/l b) 4-5 ug/l c) 4-60 ug/l d) 7-110 ug/l e) 4-20 ug/l f) 4-40 ug/l g) 10-15 ug/l h) 4-130 ug/l i) 6-190 ug/l j) 4-190 ug/l	a) 4.8 $\pm$ 0.4- 1.5 ug/l b) 4.3 $\pm$ 0.4- 1.1 ug/l c) 11 $\pm$ 0.4- 2.6 ug/l d) 11 $\pm$ 0.4- 2.9 ug/l e) 11 $\pm$ 0.4- 2.9 ug/l f) 13 $\pm$ 0.4- 1.2 ug/l g) 13 $\pm$ 0.4- 2.9 ug/l h) 24 $\pm$ 0.4- 2.6 ug/l i) 10 $\pm$ 0.4- 2.7 ug/l Geometric	a) Tungsten inert gas welders. 10% of team of work time during previous 10 yr spent on manual metal arc (MMA) TIG, nonsmokers b) Same as a), nonsmokers c) 11-40% MMA welders, nonsmokers d) Same as c), smokers e) 50-87% MMA welders, nonsmokers f) Same as e), smokers g) >90% MMA welders, nonsmokers h) Same as g), smokers i) MMA welders j) Carbon arc cutters Certain welders from MMA exposure level and resultant smoking level of chest area. Significantly higher values for smokers	Kalliohaki, P.-I. Sakkanen, E. Vaananen, V. Kalliohaki, E. Kalliohaki, E. 1981 National Archives of Occupational Health Environmental Health 49:67-75

Cobalt
7440-48-4

NEW 50.9332, MP 1493 C, BP 3100 C, VP 1 mm Hg at 1910 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	SOURCE	REMARK	GENERAL INFORMATION	REFERENCE
6258 Adrenal gland		ES	7	Not given	<0.2 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; PANCREAS; SPLEEN; THYROID GLANDS; UTERUS; LYMPH NODES: PARACERAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; HAZARDS: BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY: EPILEPTICS; EMPLOYERS	Tanaka, R. 1981 Archives of Environmental Health 36(4): 155-165
6259 Morta		ES	7	Not given	<0.2 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; PANCREAS; SPLEEN; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; HAZARDS: BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY: EPILEPTICS; EMPLOYERS	Tanaka, R. 1981 Archives of Environmental Health 36(4): 155-165

UPT

Co
MW 58.9332, MP 1493 C, BP 3100 C, VP 1 mm Hg at 1910 C

NEW 58.9332, WP 1493 C, BP 3100 C, VP 1 20 Hg at 1910 C

(Continued)

SYSTEM	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	CENTRAL INFORMATION	REFERENCE
6260 Bone		ES	5	Not given	<2.0 ppm dry wt	Normal tissue Atopiasis Japan JAPAN: ADULTS: ANTOPIASIS: ABOREAL GLANDS: ADIPSE: BONE: LIVER: LYMPH: SPLEEN: THYROID GLANDS: UTERUS: TESTES: PANCREAS: SPLEEN: STOMACH: THYROID GLANDS: TRACHEA: ALUMINUM: BARIUM: CADMIUM: CALCIUM: CERIUM: COBALT: COPPER: IRON: LEAD: MAGNESIUM: MANGANESE: METALS: NICKEL: PHOSPHORUS: POTASSIUM: SILICON: SODIUM: STRONTIUM: TUNGSTEN: VANADIUM: ZINC: BIOACCUMULATION: METALS: HAZARDS: OCCUPATIONAL HAZARDS: HAZARDS: XIRCONIUM: ELEMENTS TOXICITY: ELEMENTS	Tetsuka, K. 1981 Archives of Environmental Health 36(4):155-165
6261 Hair		HA	59	135-210 mg/g	Not given	Range of means, estimated from graph Assan, El Fargha, Assuit, Cairo, and Alexandria, Egypt EGYPT: HAIR: NAILS: ARSENITE: CADMIUM: CESIUM: CHROMIUM: COBALT: IRON: MANGANESE: METALS: MOLYBDENUM: SCANDIUM: SELENIUM: SILVER: THYMINE: DRINKING WATER: POPULATION EXPOSURE: SOILS: ORGAIN AREAS	Kapoor, K. Jungst, G.F. Kishimoto, L.E. Nashab, S. Nashab, R. 1982 Science of the Total Environment 22:149-168
6262 Hair		HA		a) 0.02-0.95 ppm b) 0.04-0.95 ppm c) 0.08-0.5 ppm d) 0.04-0.95 ppm	a) 0.15-0.07 ppm b) 0.14 wt-0.09 ppm c) 0.19 wt-0.13 ppm d) 0.16 wt-0.25 ppm	a) 12 cm length, 105 samples b) Root section, 48 samples c) Distal section, 48 samples d) Students in a), 32 samples Metropolitan Bombay, India INDIA: APOLESCENTS: ADULTS: HAIR: ARSENITE: ARSENIC: BORON: CADMIUM: CHLORINE: CHROMIUM: COBALT: COPPER: GOLD: IODINE: IRON: LANTHANUM: MANGANESE: POTASSIUM: SCANDIUM: SILVER: SODIUM: THYMINE: POLUTION: BIOACCUMULATION: FOSSIL FUELED POWER PLANTS: INDUSTRIAL WASTE: INGESTION: INDUSTRIAL POLLUTION: POPULATION EXPOSURE: URBAN AREAS: INDUSTRIAL CHEMICALS	Bhat, K.B. Arnachalas, J. Venkateswaraiah, S. Gangadharan, S. 1982 Science of the Total Environment 22:169-178

----- PAGE -----

Cable
7400-00-4
Co
NEW 50.933

AtW 58.9332, MP 1493 C, BP 3100 C, VP 1 00 Hg at 1910 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6263 Heart		ES	a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) <0.2-0.2 ppm c) <0.2-0.31 ppm d) Not applicable e) Not applicable Dry wt	a) 0.22 aor- 0.06 ppm b) <0.2 ppm c) Not given d) 0.28 ppm e) <0.2 ppm Dry wt	a) Normal healthy men b) Chromate plating workers c) Chromate refinng workers d) Airplane painter e) Stone secon Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZIRCONIUM; ELEMENTS	Tsutsuka, H. 1981 Archives of Environmental Health 36(4):155-165
6268 Intestine		ES	10	Not given	<0.2 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZIRCONIUM; ELEMENTS	Tsutsuka, H. 1981 Archives of Environmental Health 36(4):155-165
6265 Kidney		ES	a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) <0.2-0.2 ppm c) <0.2-0.60 ppm d) Not applicable e) Not applicable Dry wt	a) <0.2 ppm b) <0.2 ppm c) Not given d) 0.35 ppm e) <0.2 ppm Dry wt	a) Normal healthy men b) Chromate plating workers c) Chromate refinng workers d) Airplane painter e) Stone secon Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZIRCONIUM; ELEMENTS	Tsutsuka, H. 1981 Archives of Environmental Health 36(4):155-165

WEST PAGE

50.9332, MP 1493 C, BP 3100 C, VP 1.88 Hg at 1910 C

TISSUE	BIOPROCESS ROUTE	ANALYTICAL METHOD	SUBSTANCE OF CASES	DOSE	REMARK	GENERAL INFORMATION	REFERENCE
6266 Liver		ES	a) 9 b) 2 c) 3 d) 1 e) 1 Not given 0.27-0.33 ppm 0.31-0.39 ppm Not applicable Not applicable Dry wt	a) 0.31 wt- 0.10 ppm b) 0.28 ppm c) 0.34 ppm d) 0.46 ppm e) <0.2 ppm Dry wt	Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; ADRENAL; BONES; HEART; LIVER; LUNGS; LIVER BONES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYROID; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; THYROID; ELEMENTS	Yasaka, H. 1981 Archives of Environmental Health 36(4): 155-165	
6267 Liver		HA	0.017-0.16 ug/g Not wt	Not given	Category 1 (first priority element) as proposed by International Workshop on Analytical Environmental Materials and Specimens Testing Autopsies, Baltimore, MD, Minneapolis, MN, and Seattle, WA BAPTIST: MINNESOTA; WASHINGTON; AUTOPSIES: LIVER; MEASUREMENT; RETROD: ALUMINUM; ARSENIC; CADMIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; THYROID; ELEMENTS	Barilab, S.E. Talar, B. Vine, S.E. 1981 Archives of Environmental Health 36(4): 155-165	
6268 Lung		ES	a) 12 b) 2 c) 3 d) 1 e) 1 Not given 0.2-0.2 ppm 0.2-0.2 ppm Not applicable Not applicable Dry wt	a) <0.2 ppm b) <0.2 ppm c) <0.2-0.2 ppm d) 1.4 ppm e) <0.2 ppm Dry wt	Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; ADRENAL; BONES; HEART; LIVER; LUNGS; LIVER BONES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYROID; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; THYROID; ELEMENTS	Yasaka, H. 1981 Archives of Environmental Health 36(4): 155-165	

SECRET PAGE

Cobalt
7880-88-8
Co

Atw 58.9332, MP 1893 C, BP 3100 C, VP 1 mm Hg at 1910 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6269 Lymph node		ES	a) 3 b) 1 c) 3 d) 1 e) 1	a) Not given b) Not applicable c) <0.6 ppm d) Not applicable e) Not applicable Dry wt	a) <0.6 ppm b) <0.6 ppm c) Not given d) 0.76 ppm e) <0.6 ppm Dry wt	a) Fossil healthy sea b) Chromium plating workers c) Chromium refining workers d) Airplane painter e) Stone mason Atopias Japan JAPAN: ADULTS; AUTOPSY; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNG; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYROID; UTERUS; VAGINA; VULVA; TESTIS; ADIPONUM; BARIUM; CADMIUM; CALCIUM; CHLORINE; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TCMG; ZINC; ZINC; ELEMENTS	Tetsuka, H. Archives of Environmental Health 36(4):155-165
6270 Hair		HA	62	85-600 mg/g	Not given	Range of mean, estimated from graph Awake, El Kharq, Assuit, Cairo, and Alexandria, Egypt EGYPT: HAIR; FALLOUT; ANTIMONY; CADMIUM; CHLORINE; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; DRINKING WATER; BIOACCUMULATION; EXPOSURE; SOILS; URBAN AREAS	Faupeur, F. Frederick, G.V. Mehdizadeh, L.E. Mehdizadeh, L.E. Mehdizadeh, L.E. 1982 Science of the Total Environment 22:189-190
6271 Pancreas		ES	5	Not given	<0.2 ppm dry wt	Normal tissue Atopias Japan JAPAN: ADULTS; AUTOPSY; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNG; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYROID; UTERUS; VAGINA; VULVA; TESTIS; ADIPONUM; BARIUM; CADMIUM; CALCIUM; CHLORINE; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TCMG; ZINC; ZINC; ELEMENTS	Tetsuka, H. 1983 Archives of Environmental Health 36(4):155-165

(SEE PAGE 4)

REV 58-9332, BP 1493 C, BP 3100 C, VP 1 and HQ at 1919 C

VINE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
4272	Spleen	ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) <0.2-0.2 ppm c) <0.2-0.41 ppm d) Not applicable e) Not applicable Dry wt	a) <0.2 ppm b) <0.2 ppm c) Not given d) 0.45 ppm e) <0.2 ppm Dry wt	b) Normal healthy sea c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALT; BEAARS; OCCUPATIONAL HAZARDS; TOXICS; XIRCONIUM; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36(4): 155-165
4273	Stomach	ES	10	Not given	<0.2 ppm dry wt	Normal tissues Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALT; BEAARS; OCCUPATIONAL HAZARDS; TOXICS; XIRCONIUM; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36(4): 155-165
6278	Thyroid gland	ES	8	Not given	<0.2 ppm dry wt	Normal tissues Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALT; BEAARS; OCCUPATIONAL HAZARDS; TOXICS; XIRCONIUM; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36(4): 155-165

Cobalt
7400-ep-3
CO
Rev 58,932, EP 1493 C, EP 3160 C, EP 3 149 Hg at 1910 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NO. OF CASES	EXPOSURE	MEAN	GENERAL INFORMATION	REFERENCE
6275 Tongue	IS		2	Not given	<0.2 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; PANCREAS; SPLEEN; THYROID GLANDS; TRACHEA; UTERUS; VAGINA; VULVA; CERVIX; COLON; CECUM; CAECUM; CALCULI; CHOLELITHS; GALLBLADDER; KIDNEY; LIVER; PANCREAS; SAGUESSON; MARGARET; METALS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALT; HEARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINC; ELEMENTS	Yasaka, H. 1981 Archives of Environmental Health 36(4):155-165
6276 Trachea	IS		2	Not given	<0.2 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; PANCREAS; SPLEEN; THYROID GLANDS; TRACHEA; UTERUS; VAGINA; VULVA; CERVIX; COLON; CECUM; CAECUM; CALCULI; CHOLELITHS; GALLBLADDER; KIDNEY; LIVER; PANCREAS; SAGUESSON; MARGARET; METALS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALT; HEARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINC; ELEMENTS	Yasaka, H. 1981 Archives of Environmental Health 36(4):155-165
6277 Urine	MS			0.1-0.75 ug/l	0.30 ug/l	Subjects not occupationally exposed, Germany GERMANY: URINE; MEASUREMENT METHODS; COAL; METALS	Schaefer-Wittkop, E. 1981 Archives of Environmental Health 36(4):155-165

ANAL. Calcd for $C_{10}H_{10}O$: C, 88.10%; H, 7.39%. Found: C, 88.1%; H, 7.4%. IR (KBr): ν_{max} 1670 cm^{-1} . ^1H NMR (CDCl₃): δ 1.06 (t, 3H, CH₃), 2.59 (s, 2H, CH₂), 5.86 (s, 2H, CH=CH₂). ^{13}C NMR (CDCl₃): δ 16.3 (CH₃), 25.9 (CH₂), 106.3 (CH=CH₂), 167.0 (C=O).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SURDER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6278 adrenal gland		ES	7	Not given	10 $\pm$ 0.2 ppm dry wt	Normal tissue Autopsies Japan JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVERSTIMES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TUNGSTEN; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC OXIDE; ELEMENTS	Tanaka, H. 1951 Archives of Environmental Health 36 (4): 155-165
6279 Aorta		ES	7	Not given	6.6 $\pm$ 0.2 - 2.6 ppm dry wt	Normal tissue Autopsies Japan JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVERSTIMES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TUNGSTEN; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC OXIDE; ELEMENTS	Tanaka, H. 1951 Archives of Environmental Health 36 (4): 155-165
6280 Blood, plasma	a) Not given b) Not given	ABP	26	a) Not given b) Not given	a) 20.78 $\pm$ 0.7 μ mol/l b) 21.7 $\pm$ 0.9 μ mol/l	a) 19 healthy controls b) 7 patients with acute myocardial infarction BLOOD PLASMA; CARBOHYDRATES; CISEASES; HEART DISEASES; COPPER; MAGNESIUM; MANGANESE; ZINC	Shahley, R. Barrett, R.P. Vetter, R. Tan, B. Birth, B. 1960 Trace Substances in Environmental Health Vol. D.B. Memphis, ed. pp 211-216

--- PAGE ---

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6281 Blood, serum		AAS	171	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given l) Not given	a) 1.5 *or- 0.13 ppa b) 1.8 *or- 0.13 ppa c) 1.8 *or- 0.2 ppa d) 1.8 *or- 0.54 ug/ml e) 2.0 *or- 0.26 ug/ml f) 2.6 *or- 1.8 ug/ml g) 1.4 *or- 0.32 ppa h) 1.9 *or- 0.10 ppa i) 1.3 *or- 0.27 ppa j) 1.6 *or- 0.07 ppa k) 1.8 *or- 0.2 ppa l) 1.3 *or- 0.3 ppa	a) Respiratory tract, 36 cases b) Gastrointestinal tract, 21 cases c) Breast, 42 cases d) Breast, stage I and II, 19 cases e) Breast, stage III, 6 cases f) Breast, stage IV, 6 cases g) Cervix, 11 cases h) Leukemia, 23 cases i) Hodgkin's lymphoma, 10 cases j) Healthy volunteers, 10 cases k) Geriatric patients, 10 cases l) Type of cancer c), h), and j) significantly higher than a) and i) g) and f) significantly higher than a) and i) Level varied with stage of breast cancer, highest in advanced stages level increased over 5 yr follow-up radiotherapy patients with poorest prognosis Cancer patients (15-81 yr olds), geriatric patients (65-81 yr olds), healthy volunteers (20-44 yr olds), or UNITED KINGDOM: CARCINOMAS; LEUKEMIA; MELANOMAS; NEOPLASMS; SARCOMAS; BLOOD SEPSIS; CALCIUM; COPPER; MAGNESIUM; MANGANESE; METALS; ZINC; BIOINDICATORS Precision 18%	Capel, I.D. Wilkins, R.R. Haines, L.W.P. 1982 Oncology 39:18-31
6282 Blood, whole		X-ray Spectrometry	27	Not given	1.2 ppa	Blood: PLASMA IRON; METALS; PHOSPHORUS; SODIUM; ZINC	Searse, B.C. Close, D.A. Malanly, J.J. Geharver, C.J. 1978 Analytical Chemistry 50(6):999-1001
6283 Bone		ES	5	Not given	4.6 *or- 1.1 ppa dry wt.	Femoral tissue Atrophies Japan JAPAN: ADULTS; AUTOPSES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; UPPER BONES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALTHOUGH; BASTION; CLONING; CALCIUM; MANGANESE; COPPER; IRON; LEAD; NICKEL; MERCURY; METALS; POTASSIUM; SILICON; PHOSPHORUS; STRONTIUM; TITANIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICOLOGY; ZIRCONIUM; ELEMENTS	Takahashi, H. 1981 Archives of Environmental Health 36(4):155-165

Page 1

Copper
7440-50-8

REV 61.546, EP 1083 C, EP 2595 C, EP 1 88 Rg at 1628 C, 10 88 Rg at 1870 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	DATA	GENERAL INFORMATION	REFERENCE
6285 Bone		BA	a) 7 b) 5	a) 2-8 ppm b) 2-4 ppm	a) 3 ppm b) 3 ppm Median	a) Exposed group b) Controls Autopsies, four 65-75 yr old factory workers, Sweden. Controls from unpolluted area. ARTIMONY; ARSENIC; CADMIUM; COPPER; LEAD; MERCURY; SILENIO; SILVER; TIN; ZINC; BIOACCUMULATION; INDUSTRIAL ATMOSPHERES; INDUSTRIAL PLANTS; POPULATION EXPOSURE; SHELTERS; POWERS; FERT; COMPARATIVE EVALUATIONS; HAIR; ATOPHIES; OCCUPATIONAL HAZARDS; METALS	Liab, G. Brune, D. Borbeck, G. Foster, P.-O. Science of the Total Environment 18:109-116
6285 Hair		BA	56	3.2E10 (E-6)-3.237E10 (E-6) g/cg cm	24. 19X10 (E-6) 9/28 cm	3 cm segments of single hairs 5cm samples below detection limits INDIUM; HAIR; FORENSIC MEDICINE; TRANSPORT; ATOM; AFTICHT; LEAD; COPPER; COPPER; GOLD; HAIR; MERCURY; SILENIO; METALS; SILENIO; SILVER; SODIUM; STIMULON; ZINC; INDUSTRIAL ATMOSPHERES	Dobrynski, R. Boboli, R. 1976 Journal of Medicoanalytical Chemistry 31:267-289
6286 Hair		BA	a) 7-53 ppm b) 7-32 ppm c) 7-32 ppm d) 7-52 ppm	a) 7-53 ppm b) 7-32 ppm c) 7-32 ppm d) 7-52 ppm	a) 21 + or - 9.7 ppm b) 22 + or - 1.0 ppm c) 22.7 + or - 3.3 ppm d) 22 + or - 11 ppm	a) 12 cm length, 100 samples b) Root section, 18 samples c) Distal section, 18 samples d) Students in a) 22 samples Metropolitan Bombay, India INDIA; ADOLESCENTS; ADULTS; HAIR; ARTIMONY; ARSENIC; BROMINE; CADMIUM; CHLORINE; CHROMIUM; COBALT; COPPER; GOLD; IODINE; IRON; LANTHANUM; MANGANESE; POTASSIUM; SCANDIUM; SILICON; SILVER; SODIUM; ZINC; AIR POLLUTION; BIOACCUMULATION; FOSSIL FUELS; INDUSTRIAL ATMOSPHERES; INDUSTRIAL EMISSIONS; INDUSTRIAL POLLUTION; POPULATION EXPOSURE; URBAN AREAS; INDUSTRIAL CHEMICALS	Bhat, K.B. Aravachalam, J. Vengalrajan, S. Gandharan, S. 1982 Science of the Total Environment 22:169-178
6287 Hair		AMS	2	a) Not given b) Not given c) Not given d) Not given	a) 40.6 ug/g b) 40.3 ug/g c) 22.8 ug/g d) 10.4 ug/g	a) Subject 2, unwashed hair b) Subject 2, after 12 successive acetone washes c) Subject 2, unwashed hair d) Subject 2, after 12 successive washes in sodium lauryl sulfate e) c) 4-10 determinations, 2 of 3 subjects. Data also for other procedures and washing agents. NOTE: COMPARATIVE EVALUATIONS: CADMIUM; COPPER; IRON; MANGANESE; ZINC;	Salsola, S. Vozel, S. Alipio, J.O. 1981 Medicoanalytical Chemistry 34:131-137

(NEXT PAGE)

Copper
7440-50-8
Cu
AtW 63.546

litw 63.546, mp 1083 C, vp 1 mm Hg at 1620 C, 10 mm Hg at 1070 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6288 Heart		ES	a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) 7-10 ppm c) 8-10 ppm d) Not applicable e) Not applicable Dry wt	a) 6.8 ±or- 2.9 ppm b) 9 ppm c) 8.6 ppm d) 7.7 ppm e) 4.5 ppm Dry wt	a) Normal healthy men b) Chroslaw flatting workers c) Chroslaw refining workers d) Airplane painter e) Stone sealer Autopsies Japan JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HAZARDS; OCCUPATIONAL HAZARDS; TOXIC; ZINC; ELEMENTS	Tateoka, H. 1981 Archives of Environmental Health 36(4):155-165
6289 Intestine		ES	10	Not given	6.0 ±or- 2.1 ppm dry wt	Normal tissue Autopsies Japan JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; WEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXIC; ZINC; ELEMENTS	Tateoka, H. 1981 Archives of Environmental Health 36(4):155-165
6290 Kidney		ES	a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) 6-11 ppm c) 15.3 ppm d) Not applicable e) Not applicable Dry wt	a) 12 ±or- 5.9 ppm b) 8.5 ppm c) 15.3 ppm d) 5.2 ppm e) 5.6 ppm Dry wt	a) Normal healthy men b) Chroslaw flatting workers c) Chroslaw refining workers d) Airplane painter e) Stone sealer Autopsies Japan JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HAZARDS; OCCUPATIONAL HAZARDS; TOXIC; ZINC; ELEMENTS	Tateoka, H. 1981 Archives of Environmental Health 36(4):155-165

Copper
7440-50-8
Cu

CH
M.W. 63.546, MP 1093 C, BP 2995 C, VP 1 mm Hg at 1620 C, 10 mm Hg at 1670 C

(Continued)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6291 Liver		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) 8-23 ppm c) Not applicable d) Not applicable e) Dry wt	a) 10 + or - 7.7 ppm b) 16 ppm c) 17 ppm d) 11 ppm Dry wt	a) Normal healthy men b) Chronic plating workers c) Chronic refining workers d) Shipyard painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; PANCREAS; SPLEEN; THYROID GLANDS; UTERUS; VAGINA; STOMACH; TESTIS GLANDS; TRACHEA; ALUMINUM; BARITUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MERCURY; NICKEL; PROSPERITE; POLYMERUR; SILICON; SODIUM; POTASSIUM; SILICONE; SILVER; VANADIUM; ZINC; ZIRCONIUM; TITANIUM; MANGANESE; OCCUPATIONAL HAZARDS; TOXICOLOGY; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36(4):155-165
6292 Liver		ASV LSV MA	30	3.2-14.7 ug/g wet wt	Not given	Category 3 as proposed by International Workshop on Monitoring Environmental Pesticides and Specimens Pesticide residue element of environmental pesticides set included in first priority list) Autopsies, Baltimore, MD. Minneapolis, MN, and Seattle, WA PARTIAL: MINNESOTA, WASHINGTON; AUTOPSIES: LIVER; KIDNEY; ADRENAL GLANDS; AORTA; BONES; HEART; SPLEEN; THYROID GLANDS; UTERUS; VAGINA; STOMACH; CERVIX; CHROMIUM; COBALT; COPPER; FLUORINE; IRON; LEAD; MERCURY; NICKEL; POLYMERUR; SILICON; SODIUM; SILVER; VANADIUM; ZINC; POPULATION EXPOSURE	Harrison, S.H. Isidori, R. Wise, S.A. 1981 Environmental Health Perspectives 46(4):155-165
6293 Lung		ES	a) 12 b) 2 c) 3 d) 1 e) 1	a) Not given b) 8-10 ppm c) 8-13 ppm d) Not applicable e) Not applicable Dry wt	a) 9.5 + or - 3.8 ppm b) 9 ppm c) 10.2 ppm d) 7.2 ppm e) 7.5 ppm Dry wt	a) Normal healthy men b) Chronic plating workers c) Chronic refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; PANCREAS; SPLEEN; THYROID GLANDS; UTERUS; VAGINA; STOMACH; TESTIS GLANDS; TRACHEA; ALUMINUM; BARITUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MERCURY; NICKEL; PROSPERITE; POLYMERUR; SILICON; SODIUM; POTASSIUM; SILICONE; SILVER; VANADIUM; ZINC; ZIRCONIUM; TITANIUM; MANGANESE; OCCUPATIONAL HAZARDS; TOXICOLOGY; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36(4):155-165

NEXT PAGE)

Cu
mp 63.546, mp 1083 C, bp 2595 C, vp 1 mm Hg at 1628 C, 10 mm Hg at 1870 C

(Continued)

[illegible]

1882

Copper
7440-50-8
Cu

At 63.586, MP 1083 C, BP 2595 C, FP 1 mm Hg at 1620 C, 10 mm Hg at 1670 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6297 Stomach		ES	10	Not given	2.0 mg- 2.1 ppm dry wt	Formal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; X-RAYS; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4): 155-165
6298 Thyroid gland		ES	6	Not given	1.6 mg- 1.1 ppm dry wt	Formal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; X-RAYS; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4): 155-165
6299 Tongue		ES	2	Not given	1.6 mg- 5.1 ppm dry wt	Formal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; X-RAYS; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4): 155-165

(SEE PAGE)

Curium
7840-51-9
Cs
Atw 287, BP 1340 e or - 40 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6303 Urine	Dermal		a) 1 b) 1 c) 1 d) 1	a) 16.2-1.07 dpm/day b) 98-0.15 dpm/day c) 9.08-1.94 dpm/day d) 26.2-1.41 dpm/day	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) Day 1 and day 149 after uptake through puncture wound in finger b) Day 1 and day 145 after acid burn c) Normalized data for (a) d) Normalized data for (b) ADULTS: CASE HISTORIES; URINE; INDUSTRIAL ACCIDENTS; OCCUPATIONAL HAZARDS; RADIOISOTOPES; RADIONUCLIDES	Parkinson, W.H. Healey, L.C. Hentor, C.S., Jr. 1980 Health Physics 39:977-980

Cyanide
57-12-5
C-W
PB 26-02

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6304 Blood	Inhalation	GC	53	a) 0.5-13 $\mu\text{mol/liter}$ b) 2-2.13 $\mu\text{mol/liter}$ c) 0.5-3.9 $\mu\text{mol/liter}$ d) 2.0-126 $\mu\text{mol/liter}$	a) 5.0 $\mu\text{mol/liter}$ b) 1.0 $\mu\text{mol/liter}$ c) 2.1 $\mu\text{mol/liter}$ d) 25.8 $\mu\text{mol/liter}$	a) 17 fire survivors, no clinical evidence of smoke inhalation. Mean carbonylhemoglobin, 3.6%. b) 11 firefighters. Mean carbonylhemoglobin, 8.7%. c) 6 non-smokers from a). Mean carbonylhemoglobin, 2.1%. d) 36 fire survivors, clinical evidence of smoke inhalation. Mean carbonylhemoglobin, 18.5%. Blood carbonylhemoglobin confirmed severe smoke inhalation in absence of conclusive clinical evidence SMOKE INHA. ATOMS; SCOTLAND; BLOOD; CYANIDE; FONES; HEALTH HAZARDS; INSULATION; SMOKE	Clark, C.J. Campbell, D. Feld, W.H. 1980 Lancet (8234):1332-1335

Cyclohexane
110-82-7
Cc-B12
BW 88.16, BP 6.5 C, SP 60.7 C, VP 100 mm Hg at 60.8 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6305 Breath		GC/MS	28	2.3-8.5 $\mu\text{g/l}$	4.5 $\mu\text{g/l}$	Exhaled from graph Healthy 16-60 yr olds, nonsmokers. Rigid protocol 18 days before and during study to minimize number and amount of exogenous constituents. ACUTS; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Kroczynski, E. Gabriel, G. Clement, R. Clement, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	CENTRAL INFORMATION	REFERENCE
6306 Adipose		GC	a) 8 b) 3	a) 9-15 ug/kg b) 0.01-0.2 ug/kg Extractable lipid basis	a) 5.8 *st- 5.0 ug/kg b) Not given Extractable lipid basis	a) Neochlorocyclohexene workers b) Controls Subcutaneous tissue taken from abdomen Males employed in lindane production, and as controls, unexposed clerks. GERMANY: ADULTS; ADIPOSE TISSUE; BLOOD SPERM; INDUSTRIAL WASTE; CHLORINATED HYDROCARBONS; NEOCHLOROCYCLOHEXENE; PESTICIDES; LINDANE; BIODACCUMULATION; FOLIATION; INDUSTRIAL ATMOSPHERE; HAZARDS; PLANTS; INHALATION; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES; INDUSTRIAL CHEMICALS	Bausann, E., Agner, J., Heinrich, B., Lebert, G. 1980 International Archives of Occupational and Environmental Health 37:119-127
6307 Adipose		GC	a) 19 b) 9 c) 5	a) Not detected-0.04 ug/g b) Not detected-0.04 ug/g c) Not detected	a) 0.02 *st- 0.02 ug/g b) 0.02 *st- 0.02 ug/g c) Not given	a) Torreon, Mexico. Agricultural region with high pesticide use (10 mg/ha) b) Mexico City. Pesticide exposure mainly from foods shipped in from other areas (7 samples, 0.01-0.99 ug/g) c) Puebla. Industrial and traditional agricultural region with low pesticide use Levels based on extractable lipids. Nondetectable levels=0.005 ug/g Residents of Mexico MEXICO: ADULTS; ADIPOSE TISSUE; SMOKE; CHLORINATED HYDROCARBONS; CYCLOTRONIC GEOMETRIC COMPOUNDS; DDT; DDE; DDT; DDE; NEOCHLOROCYCLOHEXENE; LINDANE; PESTICIDES; PESTICIDE RESIDUES; POPULATION EXPOSURE; URBAN AREAS	Albert, L., Reber, L., Gonzalez, R., Portales, A., 1980 Archives of Environmental Health 35(5):262-269
6308 Blood, sera		GC	77	a) 13-271 ug/l b) 30-183 ug/l c) 25-142 ug/l d) 10-273 ug/l e) None detected	a) 75.5 *st- 67.3 ug/l b) 116.8 *st- 55.3 ug/l c) 56.2 *st- 22.8 ug/l d) 22.5 *st- 25.7 ug/l e) 49.6 *st- 51.5 ug/l f) None detected	a) 10 working in MCN synthesis b) 7 working in alpha-MCN extraction c) 11 working in alpha-MCN deoxygenation d) 21 working in gamma-BCH purification by fractional methanolic crystallization e) 57 total of a)-d) f) 20 controls Samples at end of working week Air level at work places, 0.002-1.99 ug/cm ³ Males (mean age 42 yr- 10 yr) employed in lindane production for 1-30 yr (mean exposure, 10 yr), and as controls, unexposed clerks. GERMANY: ADULTS; ADIPOSE TISSUE; BLOOD SPERM; INDUSTRIAL WASTE; CHLORINATED HYDROCARBONS; NEOCHLOROCYCLOHEXENE; PESTICIDES; LINDANE; BIODACCUMULATION; FOLIATION; INDUSTRIAL ATMOSPHERE; HAZARDS; PLANTS; INHALATION; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES; INDUSTRIAL CHEMICALS	Bausann, E., Agner, J., Heinrich, B., Lebert, G. 1980 International Archives of Occupational and Environmental Health 37:119-127

1000

Cyclohexane, 1,2,3,4,5,6-hexachloro-, alpha- (8 CI)
Cyclohexane, 1,2,3,4,5,6-hexachloro-, (alpha,2alpha,3beta,4alpha,5beta,6beta) - (9 CI)

310-84-6

C6-H6-Cl6

WP 290.83, BP 159.5-160 C, BP 288 C, VP 0.02 mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6309 Blood, serum		GC	a) 32 b) 27 c) 81 d) 68 e) 40	a) 0.0-0.04 ppm b) 0.002-0.057 ppm c) 0.003-0.046 ppm d) 0.001-0.085 ppm e) 0.0-0.034 ppm f) 0.021-0.131 ppm g) 0.018-0.160 ppm h) 0.017-0.215 ppm i) 0.01-0.175 ppm j) 0.012-0.175 ppm	a) 0.01 $\pm$ 0.0068 ppm b) 0.010 $\pm$ 0.0086 ppm c) 0.021 $\pm$ 0.0151 ppm d) 0.018 $\pm$ 0.0165 ppm e) 0.016 $\pm$ 0.008 ppm f) 0.078 $\pm$ 0.028 ppm g) 0.096 $\pm$ 0.039 ppm h) 0.063 $\pm$ 0.037 ppm i) 0.077 $\pm$ 0.0284 ppm j) 0.051 $\pm$ 0.0327 ppm	a) No previous exposure b) 1 season of prior exposure c) 2 seasons of prior exposure d) 3 seasons of prior exposure e) 23 seasons of prior exposure f) group a), post-exposure g) group b), post-exposure h) group c), post-exposure i) group d), post-exposure j) group e), post-exposure k) 2ke-exposure l) 3) After 16 wk spraying technical grade MCM (3.1% alpha, .7% beta, and 1% gamma), applied with pump (20 g/g sq ft) m) 19-49 yr old malaria sprayers with 0-4 seasons prior occupational exposure n) ADULTS; BLOOD SERUM; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; HEXACHLOROCYCLOHEXANE; PESTICIDES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES	Gupte, S.F. Parikh, J.A. Shah, R.P. S.K. Shettarjee, S.K. Khetkar, S.K. 1982 Archives of Environmental Health 37(1):81-84

Cyclohexane, 1,2,3,4,5,6-hexachloro-, beta- (8 CI)
Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2beta,3alpha,4beta,5alpha,6beta) - (9 CI)

319-85-7

C6-H6-Cl6

WP 290.83, BP 310-315 C (sublimes), BP 60 C at 0.58 mm Hg, VP 0.005 mm Hg at 20 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6310 Adipose		GC	a) 8 b) 3	a) 18-103 mg/kg b) 0.3-2.4 mg/kg Extractable lipid basis	a) 45.6 $\pm$ 0.24 g mg/kg b) Not given Extractable lipid basis	a) Hexachlorocyclohexane workers b) Controls Subcutaneous tissue from abdomen Levels about 300-fold higher than in serum Sales employed in lindane production, and as controls, unexposed clerks. OCCUPANT: ADULTS; ADIPOSE TISSUE; BLOOD SERUM; INDUSTRIAL MEDICINE; CHLORINATED HYDROCARBONS; HEXACHLOROCYCLOHEXANE; LINDANE; PESTICIDES; AIR POLLUTION; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIAL ATMOSPHERE; INDUSTRIAL PLANTS; IRRADIATION; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES; INDUSTRIAL CHEMICALS	Reumann, E. Angerer, J. Heinrich, R. Lohmeyer, G. 1980 Occupational Archives of Occupational and Environmental Health 47:109-127

(NEXT PAGE)

Cyclohexane, 1,2,3,4,5,6-hexachloro-, beta- (8 CI)
 1,2,3,4,5,6-hexachloro-, (alpha,2beta,3alpha,4beta,5alpha,6beta) - (9 CI)
 1,2,3,4,5,6-hexachloro-, (alpha,2beta,3alpha,4beta,5alpha,6beta) - (9 CI)
 C6-H6-Cl6
 MW 290.83, BP 314-315 C (sublimed), BP 60 C at 0.56 mm Hg, VP 0.005 mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6311 Adipose		GC	a) 19 b) 9 c) 9	a) Not detected-1.57 ug/g b) Not detected-0.46 ug/g c) Not detected-0.25 ug/g	a) 0.13 + or - 0.48 ug/g b) 0.04 + or - 0.05 ug/g c) Not given	a) Torreon, Mexico. Agricultural region with high pesticide use (11 samples >0.01 ug/g) b) Mexico City. Pesticide exposure mainly from foods shipped in from other areas (8 samples >0.01 ug/g) c) Puebla. Industrial and traditional agricultural region with low pesticide use (2 samples >0.01 ug/g) b) is based on extractable lipids. Nondetectable levels=0.005 ug/g Residents of Mexico MEXICO: ADIPOSE TISSUE; SUGARY; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; DDE; DDT; DIELDRIN; HEXACHLOROCYCLOHEXANE; LINDANE; PESTICIDES; POPULATION EXPOSURE; URBAN AREA	Albert, E. M., Cebrian, M. Z., Portales, A. 1980 Archives of Environmental Health 35 (5): 262-269
6312 Blood, Serum		GC	77	a) 17-305 ug/l b) 117-496 ug/l c) 114-760 ug/l d) 17-438 ug/l e) 17-760 ug/l f) None detected	a) 164.5 + or - 97.3 ug/l b) 285.6 + or - 160.0 ug/l c) 344.2 + or - 187.0 ug/l d) 130.5 + or - 127.5 ug/l e) 150.3 + or - 153.8 ug/l f) None detected	a) 10 working in MCN synthesis b) 7 working in alpha-MCN extraction c) 11 working in alpha-MCN decomposition d) 21 working in gamma-MCN purification by fractional methanolic crystallization (2 of a)-d) e) 20 control (2 a)-d) f) Samples at end of working week Air level at work places, 0.001-0.38 ug/cu m Significant increase with time of employment Males (mean age 42 + or - 10 yr) employed in lindane production for 1-30 yr (mean exposure, 10 + or - 9 yr, and in controls, unexposed clients. GERMANY: ADIPOSE TISSUE; BLOOD SERUM; INDUSTRIAL MEDICINE; CHLORINATED HYDROCARBONS; HEXACHLOROCYCLOHEXANE; LINDANE; PESTICIDES; AIR POLLUTION; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIAL ATMOSPHERES; INDUSTRIAL PLANTS; IRRADIATION; OCCUPATIONAL DISEASES; PESTICIDE RESIDUES; INDUSTRIAL CHEMICALS	Bausann, K., Asperger, J., Reiarich, B., Lehner, G. 1980 International Archives of Occupational and Environmental Health 47:119-127

(NEXT PAGE)

1,2,3,4,5,6-hexachloro-, beta- (8 CI)
 1,2,3,4,5,6-hexachloro-, (1alpha,2beta,3alpha,4beta,5alpha,6beta) - (9 CI)

AV 314-315 C (sublimen), BP 60 C at 0.58 mm Hg, VP 0.005 mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
Bile Blood Tissue		GC	a) 32 b) 27 c) 81 d) 68 e) 40	a) 0.0-0.250 ppm b) 0.013-0.033 ppm c) 0.014-0.689 ppm d) 0.047-0.699 ppm e) 0.044-0.421 ppm f) 0.043-0.402 ppm g) 0.047-0.414 ppm h) 0.047-0.435 ppm i) 0.130-0.473 ppm j) 0.085-0.445 ppm	a) 0.058 *or- 0.0544 PPM b) 0.086 *or- 0.0635 PPM c) 0.266 *or- 0.2005 PPM d) 0.294 *or- 0.1418 PPM e) 0.146 *or- 0.0781 PPM f) 0.250 *or- 0.0814 PPM g) 0.315 *or- 0.0971 PPM h) 0.289 *or- 0.1072 PPM i) 0.385 *or- 0.1324 PPM j) 0.225 *or- 0.0723 PPM	a) No previous exposure b) 1 season of prior exposure c) 2 seasons of prior exposure d) 3 seasons of prior exposure e) Group a), post-exposure f) Group b), post-exposure g) Group c), post-exposure h) Group d), post-exposure i) Group e), post-exposure j) Pre-exposure k) After 16 wk spraying technical grade NCH (3.16 alpha, 7% beta, and 8 gamma), applied with pump (20 mg/kg ft) l) 10-49 yr old malaria sprayers with 0-4 seasons prior occupational exposure ADULTS: BLOOD SERUM: CHLORINATED HYDROCARBONS: CHLORINE ORGANIC COMPOUNDS: HYDROCARBONIC COMPOUNDS: OCCUPATIONAL HAZARDS: PESTICIDE RESIDUES	Sefta, S.R. Shah, S.R. Chatterjee, S.R. Kashyap, S.R. 1982 Archives of Environmental Health 37(1):81-88

Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI)
 Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta) - (9 CI)

C6-H6-Cl6
 BP 290.85, BP gamma-isomer crystals 112.5 C, BP 323.6 C, 176.2 C at 10 mm Hg, VP 0.10 mm Hg at 40 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
Adipose		GC	a) 8 b) 3	a) 0-11 mg/kg b) 0-0.1 mg/kg Extractable lipids basis	a) 3.1 *or- 1.1 mg/kg b) Not given Extractable lipid basis	a) Hexachlorocyclohexane workers b) Controls Subcutaneous tissue taken from abdomen Males employed in lindane production and as controls, unexposed clerks. GEMANY: ADULTS: ADIPOSE TISSUE: BLOOD SERUM: INDUSTRIAL MEDICINE: CHLORINATED HYDROCARBONS: HYDROCARBONIC COMPOUNDS: PESTICIDES: HEALTH HAZARDS: INDUSTRIAL ATMOSPHERES: INDUSTRIAL PLANTS: INHALATION: OCCUPATIONAL HAZARDS: PESTICIDE RESIDUES: INDUSTRIAL CHEMICALS	Baumann, E. Hofmann, J. Heinrich, R. Lehner, G. 1980 International Archives of Occupational and Environmental Health 47:119-127

(NEXT PAGE)

INLET PAGE)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6318 Blood, urine		GC	a) 32 b) 21 c) 61 d) 68 e) 40	a) 0.0-0.087 ppm b) 0.0-0.051 ppm c) 0.0-0.036 ppm d) 0.0-0.057 ppm e) 0.0-0.028 ppm f) 0.0-0.112 ppm g) 0.0-0.099 ppm h) 0.0-0.065 ppm i) 0.0-0.132 ppm j) 0.0-0.063 ppm	a) 0.009 ±0r- 0.0123 b) 0.004 ±0r- 0.0074 c) 0.006 ±0r- 0.0092 d) 0.009 ±0r- 0.0120 e) 0.008 ±0r- 0.0099 f) 0.037 ±0r- 0.0222 g) 0.037 ±0r- 0.0226 h) 0.028 ±0r- 0.0214 i) 0.034 ±0r- 0.0349 j) 0.025 ±0r- 0.0168 ppm	a) No previous exposure b) 1 season of prior exposure c) 2 seasons of prior exposure d) 3 seasons of prior exposure e) >3 seasons of prior exposure f) Group a), post-exposure g) Group b), post-exposure h) Group c), post-exposure i) Group d), post-exposure j) Group e), post-exposure a)-e) Pre-exposure f)-j) After 16 wk spraying technical grade HCH (3.1% alpha, .7% beta, and 1% gamma), applied with pump (20 kg/mq ft) 19-45 yr old malaria sprayers with 0-4 seasons prior occupational exposure ADULTS: BLOOD SERUM: CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; ETHACLOTHIOCYCLIFANE; PESTICIDES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES	Gupta, S.K. Puri, J.P. Shah, R.P. Chatterjee, S.K. Kanyap, S.R. 1982 Archives of Environmental Health 37(1):91-94
6319 Placenta		GC	100	a) 0.7-95.6 ppb b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 17.1 tot- 15.8 ppb b) 12.9 tot- 7.1 ppb c) 13.7 tot- 21.1 ppb d) 13.9 tot- 24.7 ppb e) 16.5 tot- 15.7 ppb f) 17.5 tot- 16.9 ppb g) 18.9 tot- 17.6 ppb	a) All subjects b) 60 subjects, age 13-25 yr c) 40 subjects, age 26-30 yr d) 42 subjects, non-vegetarians e) 59 subjects, non-vegetarians f) 43 subjects, rural g) 57 subjects, urban Tissue collected at delivery b) and c) significantly different Residents of Lucknow, India INDIA: ADULTS; AGE; FETUS; BLOOD; PLACENTA; CHLORINE ORGANIC COMPOUNDS; DEC; DDT; ETHACLOTHIOCYCLIFANE; LINDANE; PESTICIDES; AGRICULTURE; BIOACCUMULATION; DIETS; FREQUENT; URBAN AREAS; URBAN AREAS; PESTICIDE RESIDUES; POPULATION EXPOSURE	Srinna, N.C. Sridigala, N.R.J. Nagayya, M.R. Ramesh Reddy, C.R. Ratny, D. 1981 Archives of Toxicology 48:127-134

Cyclohexanol
100-93-0
C6-H12-O
MW 100.16, BP 161.5 C, VP 1 mm Hg at 21.0 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	SEAL	GENERAL INFORMATION	REFERENCE
6320 Breath		GC/MS	26	2.3-8.7 ng/l	4.3 ug/l	Estimated from graph Healthy 18-49 yr olds, nonsmokers. Rigid protocol 14 days before and during study to eliminate tobacco and source of exogenous constituents. ADULTS: BREATH: ALCOHOLS: CLOZINE ORGANIC COMPOUNDS: CLOZOBENZES	Krotosynski, B. Gablial, G. O'Neill, E. Cieslio, R. P. A. Journal of Carcinogenic Science 15:239-248

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6321 Breath		GC/MS	28	0.2-3.2 ng/l	0.6 ng/l	Estimated from graph Healthy 18-60 yr. old, nonsmokers. Rapid protocol is done before and after surgery. Data before and during study to minimize number and amount of exogenous constituents.	Kotowynski, B. Gabrial, D. Muller, R. Cladio, R. P.A. 1977 Journal of Chromatographic Science 15:239-244

OUT, total (no postage in cheques).
00-29-3
C10-M9-C15
NW 350.50

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6322 Adipose		GC	a) 19 b) 9 c) 9	a) 2.49-146.63 ug/g b) 1.45-15.35 ug/g c) Not detected-0.04 ug/g	a) 21.47 $\pm$ 9.7 37.10 ug/g b) 8.31 $\pm$ 4.95 ug/g c) 3.44 $\pm$ 3.25 ug/g	a) Torreon, Mexico. Agricultural region with high pesticide use b) Mexico City. Pesticide exposure solely from foods shipped in from other areas c) Puebla. Industrial and traditional agricultural region with low pesticide use Levels based on extractable lipids. Nondetectable levels=0.005 ug/g Residents of Mexico MEXICO: AUTOPSIES: ADIPOSE TISSUE; SURGERY: CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; DDT; DDE; DDT; DIELDRIN; HEACHLORECTOCHLORANE; LINDANE; PESTICIDES; PESTICIDE RESIDUES; POPULATION EXPOSURE: URBAN AREA a) All subjects b) 60 subjects, ages 18-25 yr c) 40 subjects, ages 26-34 yr d) 42 subjects, vegetarians e) 58 subjects, non-vegetarians f) 43 subjects, rural g) 57 subjects, urban Sum of p,p'-DDE, p,p'-DDP, and p,p'-DDT Maternal blood, collected 8-12 hr before parturition Residents of Lucknow, India INDIA: ADULTS; AGE: FETUS; BLOOD; PLACENTA; CHLORINE ORGANIC COMPOUNDS; DDT; DDE; DDT; HEACHLORECTOCHLORANE; LINDANE; PESTICIDES; AGRICULTURE; BIODISTRIBUTION; DIETS; PREGNANCY; RURAL AREAS; URBAN AREAS; PESTICIDE RESIDUES; POPULATION EXPOSURE	Albert, L. Meier, P. Cebrian, M.E. Portales, A. 1980 Archives of Environmental Health 35(5):262-269
6323 Blood		GC	100	a) 7.7-1257.3 ppb b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 87.2 $\pm$ 52.2 ppb b) 42.1 $\pm$ 38.5 ppb c) 36.1 $\pm$ 86.3 ppb d) 41.6 $\pm$ 44.2 ppb e) 72.1 $\pm$ 183.4 ppb f) 87.2 $\pm$ 217.8 ppb g) 55.4 $\pm$ 52.4 ppb	Saxena, M.C. Siddiqui, A.K.J. Bhargava, A.R. Kishna Rathi, C.B. Ketty, D. 1981 Archives of Toxicology 48:127-134	

NEXT PAGE

(Continued)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6328 Blood, fetal		GC	100	a) 2.7-1029.8 ppb b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 50.7 $\pm$ 117.0 ppb b) 49.5 $\pm$ 173.7 ppb c) 51.1 $\pm$ 48.2 ppb d) 62.2 $\pm$ 51.0 ppb e) 50.0 $\pm$ 50.4 ppb f) 40.6 $\pm$ 53.1 ppb g) 41.6 $\pm$ 72.1 ppb	a) All subjects b) 36 subjects, mother's age 18-25 yr c) 34 subjects, mother's age 26-34 yr d) 56 subjects, non-vegetarian mothers e) 58 subjects, non-vegetarian mothers f) 42 subjects, rural g) 48 subjects, urban Sum of p,p'-DDE, p,p'-DDD, p,p'-DDT Cord blood, collected at delivery Residents of Lucknow, India INDIA: ADULTS; AGE: FETUS; BLOOD: PLACENTA; CHLORINE ORGANIC COMPOUNDS: DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; LINDANE; PESTICIDES: AGRICULTURE; BIOACCUMULATION: DIETS; PREGNANCY: RURAL AREAS; URBAN AREAS; PESTICIDE RESIDUES; POPULATION EXPOSURE	Saxena, M.C. Siddiqui, N.K.J. Bhargava, A.K. Kishna Murli, C.R. 1987, D. Archives of Toxicology 48:127-134
6325 Blood, serum		GC	499	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given l) Not given m) Not given n) Not given o) Not given p) Not given	a) 25 ug/l b) 26 ug/l c) 25 ug/l d) 46 ug/l e) 50 ug/l f) 42 ug/l g) 42 ug/l h) 143 ug/l i) 100 ug/l j) 252 ug/l k) 180 ug/l l) 220 ug/l m) 160 ug/l n) 195 ug/l o) 285 ug/l p) 375 ug/l Geometric	a) Females age <1-9 b) Males age <1-9 c) Females age 10-19 d) Males age 10-19 e) Females age 20-29 f) Males age 20-29 g) Females age 30-39 h) Males age 30-39 i) Females age 40-49 j) Males age 40-49 k) Females age 50-59 l) Males age 50-59 m, n, Females age 60-69 n) Males age 60-69 o) Females >70 p) Males >70 Estimated from graph Levels increased with age. Fish consumption was second strongest determinant. Residents of Trilam, IL living downstream from defunct DDT-manufacturing plant. 43.8% male, 56.2% female, 86.9% black, 13% children. BLOOD SERUM: COMPARATIVE EVALUATIONS: INDUSTRIAL PLANTS: METABOLITES: DDT: ALABAMA: ADOLESCENTS: ADULTS: CHILDREN; INFANTS	Kelms, E. Zack, R.R. Kimbrough, R.D. Needham, L.L. Sark, A.L. Jones, B.T. Journal of the American Medical Association 245(19):1926-1930
6326 Placenta		GC	100	a) Not detected-298.7 ppb b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 56.2 $\pm$ 51.6 ppb b) 51.4 $\pm$ 48.3 ppb c) 63.8 $\pm$ 56.9 ppb d) 57.7 $\pm$ 59.4 ppb e) 73.6 $\pm$ 73.7 ppb f) 75.7 $\pm$ 70.7 ppb g) 58.4 $\pm$ 42.4 ppb	a) All subjects b) 60 subjects, ages 18-25 yr c) 40 subjects, ages 26-34 yr d) 42 subjects, vegetarians e) 56 subjects, non-vegetarians f) 43 subjects, rural g) 57 subjects, urban Sum of p,p'-DDE, p,p'-DDD, and p,p'-DDT Tissue collected at delivery Residents of Lucknow, India INDIA: ADULTS; AGE: FETUS; BLOOD: PLACENTA; CHLORINE ORGANIC COMPOUNDS: DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; LINDANE; PESTICIDES: AGRICULTURE; BIOACCUMULATION: DIETS; PREGNANCY: RURAL AREAS; URBAN AREAS; PESTICIDE RESIDUES; POPULATION EXPOSURE	Saxena, M.C. Siddiqui, N.K.J. Bhargava, A.K. Kishna Murli, C.R. Ketty, D. 1981 Archives of Toxicology 48:127-134

Recanal
112-31-2
C10-R20-0
MW 156.27, MP -5 C, BP 208-209 C, VP 1 mm Hg at 51.9 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6327 Breath		GC/MS	28	0.22-1 ng/l	0.47 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotoszynski, B. Gabriel, G. O'Neill, H. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

Decane
128-18-5
C10-R22
MW 142.3, MP -29.7 C, BP 174.1 C, VP 1 mm Hg at 16.5 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6328 Breath		GC/MS	28	0.04-3.5 ng/l	0.37 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotoszynski, B. Gabriel, G. O'Neill, H. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

Tributylamine (9 CI)
1-Butanamine, n-butyl- (9 CI)
111-92-2
C8-R19-W
MW 129.24, MP -60 to -59 C, BP 159-160 C, VP 2 mm Hg at 20 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6329 Breath		GC/MS	28	0.08-1.2 ng/l	0.32 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotoszynski, B. Gabriel, G. O'Neill, H. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

Toxicology
112-40-3
C12-226
MW 170.3, BP -12 C, MP 216.2 C, VP 1 mm Hg at 47.8 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6330 Breath		GC/MS	28	0.09-1.2 ng/l	0.32 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENE	Kotomiyuki, E. Gabriel, G. O'Neill, R. Claudio, R.F.A. Journal of Chromatographic Science 15:239-244

500461 (No postings in CHEMLINE).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6331 Urine	Ingestion	Radioactivity	6	0.032-0.054% of dose	0.041 ± or - 0.010% of dose	7 day cumulative excretion after 50 uCi dose. Fecal recovery after 7 days was 94.3 ± or - 4.9% ORINE: FOOD ADDITIVES	Walton, P.D. Carter, D.E. Byerum, E.A. Clark, D. Food and Cosmetics Toxicology 19:687-690

500467 (No postings in CHEMLINE).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6332 Urine	Ingestion	Radioactivity	6	0.031-0.086% of dose	0.045 ± or - 0.021% of dose	7 day cumulative excretion after 50 uCi dose. Fecal recovery of 102.5 ± or - 1.7% after 7 days indicates minimal intestinal absorption Healthy 22-32 yr olds ORINE: FOOD ADDITIVES	Walton, P.D. Carter, D.E. Byerum, E.A. Clark, D. Food and Cosmetics Toxicology 19:687-690

Ergosta-5,22-dien-3beta-ol (6 CI)
Ergosta-5,22-dien-3-ol, (3beta,22E) - (9 CI)
478-67-9
C28-H46-O
MW 386.74

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6333 Blood, cells	Ingestion	TLC GC/MS	3	1.3-2.9 ug/g	2.2 ug/g	Total noncholesterol sterols in diet, 383 ug/day for 3-4 wk (2 subjects) or 8 wk (1 subject). Total sterols in diet, 636 ug/day 2 normal men, one 46 yr old hypercholesterolemic woman ADULTS: BLOOD PLASMA: ERYTHROCYTES: CHOLESTEROLS; DIETS; FOODS	Conner, R.E. Lila, D.S. 1981 Gastroenterology 81:276-284

(BETZ PAGE)

(CONTINUED)

Erqosta-5,22-dien-3beta-ol (8 CI)
 Erqosta-5,22-dien-3-ol, (3beta,22)- (9 CI)
 474-67-9
 C28-H46-O
 MW 396.74

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6134 Blood, Plasma	Ingestion	TLC GC/MS	9	Not detectable-1.8 ug/ml	Not applicable	Total noncholesterol sterols in diet, 282 mg/day for 3-4 wk (6 subjects) or 393 mg/day for 3-4 wk (2 subjects) or 8 wk (1 subject). Total sterols in diet, 447 mg/day or 634 mg/day 8 normal 23-47 yr old men, 1 hypercholesterolemic 66 yr old woman ADULTS: BLOOD PLASMA: ENTHROCYTES; CHOLESTEROLS; DIETS; FOODS	Connor, W.E. Lin, D.S. 1981 Gastroenterology 81:276-284

Erqosta-5,24 (28)-dien-3beta-ol (8 CI)
 Erqosta-5,24 (28)-dien-3-ol (3beta)- (9 CI)
 474-63-5
 C28-H46-O
 MW 396.74

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6135 Blood, cells	Ingestion	TLC GC/MS	3	7.2-12.3 ug/g	9.1 ug/g	Total noncholesterol sterols in diet, 354 mg/day or 3-4 wk (2 subjects) or 8 wk (1 subject). Total sterols in diet, 634 mg/day 2 normal men, one 66 yr old hypercholesterolemic woman ADULTS: BLOOD PLASMA: ENTHROCYTES; CHOLESTEROLS; DIETS; FOODS	Connor, W.E. Lin, D.S. 1981 Gastroenterology 81:276-284
6136 Blood, Plasma	Ingestion	TLC GC/MS	9	5.2-51.0 ug/ml	15.6 ug/ml	Total noncholesterol sterols in diet, 262 mg/day for 3-4 wk (6 subjects) or 393 mg/day for 3-4 wk (2 subjects) or 8 wk (1 subject). Total sterols in diet, 447 mg/day or 634 mg/day 8 normal 23-47 yr old men, 1 hypercholesterolemic 66 yr old woman ADULTS: BLOOD PLASMA: ENTHROCYTES; CHOLESTEROLS; DIETS; FOODS	Connor, W.E. Lin, D.S. 1981 Gastroenterology 81:276-284

Etane, 1,1-dichloro-2-(4-chlorophenyl)-2-(p-chlorophenyl) - (8 CI)
 Benzene, 1-chloro-2-(2,2-dichloro-1-(4-chlorophenyl)ethyl) - (9 CI)
 C18-810-C18
 NB 320-65, NP 76-78 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6337 Blood, Plasma	Ingestion	GC		a) Not given b) Not given c) Not given d) Not given e) Not given f) 2.5 ug/ml g) 7-16.5 ug/ml h) 8.5-23 ug/ml	a) 2.6 ug/ml b) 2.7 ug/ml c) 3.0 ug/ml d) 1.7 ug/ml e) 2.1 ug/ml f) 2.5 ug/ml g) 12 ug/ml h) 16.2 ug/ml	a) In silt, 16 patients b) In chocolate, 10 patients c) In granules, 2 patients d) In tablets, 2 patients e) In peanut oil/water emulsion, 6 patients f) In tablets, 8 patients g) In peanut oil/water emulsion, 8 patients h) In silt, 6 patients Vehicles of administration a)-e) mean levels in first 10 hr period after 2 g- 5 hr levels also given f)-h) 1.75-g/day for 30-60 days, total dose 200 g d) significantly lower than a), b), and c) but significantly higher than e) f) Significantly lower than g) and h) estimated from graph Patients treated for disseminated adenocarcinoma of the colon, primary dependent Cushing's syndrome, testicles, the Netherlands Meases and borbotyngus when administered in chocolate or emulsion HYPERPLASIA; DISEASES: SARCOMAS; BLOOD PLASMA; DRUG THERAPY: SEUGS; CANCER CHEMOTHERAPY; SEUGS; CANCER CHEMOTHERAPY; DDE	Boelenar, A.J. van Slooten, H. van Seters, A.P. 1981 Cancer Chemotherapy and Pharmacology 7:151-54

Etane, 1,1-dichloro-2,2-bis(p-chlorophenyl) - (8 CI)
 Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)
 C18-810-C18
 NB 350-66, NP 221-222 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6338 Adipose		GC	a) 19 b) 9 c) 9	a) Not detected-1.03 ug/g b) 0.04-1.63 ug/g c) Not detected-0.01 ug/g	a) 0.16 +/- 0.26 ug/g b) 0.44 +/- 0.72 ug/g c) Not given	a) Toluene, Mexico. Agricultural region with high pesticide use (f) samples >0.01 ug/g) b) Agricultural pesticide exposure c) Industrial and other areas (8 samples >0.01 ug/g) Traditional agricultural region with low pesticide use Levels based on extractable lipids. Nondetectable levels=0.005 ug/g Residents of Mexico MEXICO: ADIPOSES; ADIPOSE TISSUE; SUGGEST: CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; DDE; DDT; DE: DIELDRIN; HEPTACHLOROCYCLOPHANE; LINDANE; PESTICIDES; PESTICIDE RESIDUES; POPULATION EXPOSURE; SEDAN SPIN	Albert, L. Reider, F. Schmitt, R.Z. Portier, A. 1980 Archives of Environmental Health 35(5):262-269

(NEXT PAGE)

thane, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2-dichloroethylidene)bis (e-chloro- (9 CI)
72-54-8
CAS-810-Cl₂
NI 350.46, NP 221-222 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6339 Blood		GC	100	a) Not detected-432.7 ppb b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 5.7 μ g- 7.7 ppb b) 4.9 μ g- 7.7 ppb c) 7.4 μ g- 8.2 ppb d) 6.7 μ g- 6.7 ppb e) 15.7 μ g- 7.7 ppb f) 18.9 μ g- 9.5 ppb g) 8.2 μ g- 9.5 ppb	a) All subjects b) 60 subjects, age 18-25 yr c) 40 subjects, age 26-34 yr d) 42 subjects, vegetarians e) 43 subjects, non-vegetarians f) 43 subjects, urban g) 57 subjects, urban Maternal blood, collected 8-12 hr before parturition b) and c) significantly different Residents of Lucknow, India INDIA: ADULTS; AGE: PFTUS; BLOOD; LACTATION; RESIDUES; CHLORINE; CHLORINE; LIFE: DDT; DDT; METACHLOROCYCLOHEXANE; LINDANE; PESTICIDES; AGRICULTURE; BIOACCUMULATION; DIETS; PREGNANCY; RURAL AREAS; URBAN AREAS	Saxena, M.C. Siddiqui, M.K.J. Bhargava, A.R. Kishan Murti, C.B. Kati, D. 1981 Archives of Toxicology 48:127-134
6340 Blood, fetal		GC	100	a) Not detected-48.2 ppb b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 7.1 μ g- 16.1 ppb b) 8.8 μ g- 12.2 ppb c) 6.0 μ g- 14.3 ppb d) 8.0 μ g- 11.6 ppb e) 8.8 μ g- 11.6 ppb f) 6.2 μ g- 8.4 ppb g) 7.3 μ g- 25.7 ppb	a) All subjects b) 56 subjects, mother's age 18-25 yr c) 36 subjects, mother's age 26-34 yr d) 36 subjects, vegetarians e) 58 subjects, non-vegetarians f) 42 subjects, rural g) 48 subjects, urban Cord blood, collected at delivery Residents of Lucknow, India INDIA: ADULTS; AGE: PFTUS; BLOOD; LACTATION; RESIDUES; CHLORINE; CHLORINE; LIFE: DDT; DDT; METACHLOROCYCLOHEXANE; LINDANE; PESTICIDES; AGRICULTURE; BIOACCUMULATION; DIETS; PREGNANCY; RURAL AREAS; URBAN AREAS; PESTICIDE RESIDUES; POPULATION REPOSURE	Saxena, M.C. Siddiqui, M.K.J. Bhargava, A.R. Kishan Murti, C.B. Kati, D. 1981 Archives of Toxicology 48:127-134
6381 Placenta		GC	100	a) Not detected-93.3 ppb b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 8.3 μ g- 9.9 ppb b) 9.6 μ g- 11.7 ppb c) 7.1 μ g- 7.5 ppb d) 7.1 μ g- 9.8 ppb e) 10.5 μ g- 15.3 ppb f) 12.7 μ g- 17.2 ppb g) 6.9 μ g- 9.3 ppb	a) All subjects b) 40 subjects, age 18-25 yr c) 40 subjects, age 26-34 yr d) 42 subjects, vegetarians e) 58 subjects, non-vegetarians f) 43 subjects, rural g) 57 subjects, urban Tissue collected at delivery b) and c) significantly different Residents of Lucknow, India INDIA: ADULTS; AGE: PFTUS; BLOOD; LACTATION; RESIDUES; CHLORINE; CHLORINE; LIFE: DDT; DDT; METACHLOROCYCLOHEXANE; LINDANE; PESTICIDES; AGRICULTURE; BIOACCUMULATION; DIETS; PREGNANCY; RURAL AREAS; URBAN AREAS; PESTICIDE RESIDUES; POPULATION REPOSURE	Saxena, M.C. Siddiqui, M.K.J. Bhargava, A.R. Kishan Murti, C.B. Kati, D. 1981 Archives of Toxicology 48:127-134

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6382 Adipose		GC	a) 19 b) 9 c) 9	a) Not detected-2.58 ug/g b) 2.1 ug/g c) Not detected-1.09 ug/g	a) 0.82 +or- 0.89 ug/g b) 1.08 +or- 1.13 ug/g c) 0.48 +or- 0.92 ug/g	a) Torreón, Mexico. Agricultural region with high pesticide use (12 samples >0.01 ug/g) b) Mexico City. Pesticide exposure mainly from foods shipped in from other areas (8 samples >0.01 ug/g) c) Puebla. Industrial and traditional agricultural region with heavy pesticide use (5 samples >0.01 ug/g) Levels based on extractable lipids. Nondetectable levels=0.005 ug/g Residents of Mexico MEXICO: ANTROPIES; AIRBORN INSECTICIDES; CHLORINE ORGANIC COMPOUNDS; DDT; DDE; DDD; DIMETHYL; HEACHLOCHLORINASE; LINDANE; PESTICIDES; POPULATION EXPOSURE; URBAN AREAS Mexico: ANTROPIES; AIRBORN INSECTICIDES; CHLORINE ORGANIC COMPOUNDS; DDT; DDE; DDD; DIMETHYL; HEACHLOCHLORINASE; LINDANE; PESTICIDES; POPULATION EXPOSURE; URBAN AREAS	Albert, L. Hendrix, F. Cebrian, M.E. Portales, A. 1980 Archives of Environmental Health 35(5):262-269
6383 Blood		GC	100	a) Not detected-433.6 ppb b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 17.3 +or- 37.3 ppb b) 15.3 +or- 32.4 ppb c) 21.7 +or- 35.7 ppb d) 23.7 +or- 38.3 ppb e) 92.2 +or- 86.9 ppb f) 24.0 +or- 34.4 ppb g) 24.0 +or- 34.4 ppb	a) All subjects b) 5 subjects, ages 18-25 yr c) 5 subjects, ages 26-34 yr d) 52 subjects, vegetarians e) 56 subjects, non-vegetarians f) 43 subjects, rural g) 57 subjects, urban Maternal blood, collected 8-12 hr before parturition f) and g) significantly different Residents of Lucknow, India INDIA: ADULTS; AGE; PETUS; BLOOD; PLACENTA; CHLORINE ORGANIC COMPOUNDS; DDT; DDE; DDB; HEACHLOCHLORINASE; LINDANE; PESTICIDES; AGRICULTURE; BIOACCUMULATION; DIETS; PRESERVED; RURAL AREAS; URBAN AREAS; PESTICIDE RESIDUES; POPULATION EXPOSURE India: ADULTS; AGE; PETUS; BLOOD; PLACENTA; CHLORINE ORGANIC COMPOUNDS; DDT; DDE; DDB; HEACHLOCHLORINASE; LINDANE; PESTICIDES; AGRICULTURE; BIOACCUMULATION; DIETS; PRESERVED; RURAL AREAS; URBAN AREAS; PESTICIDE RESIDUES; POPULATION EXPOSURE	Saxena, M.C. Siddiqui, M.K.J. Shargava, A.K. Kishna Nutti, C.B. Kutty, O. 1981 Archives of Toxicology 48:129-134
6384 Blood, Fetal		GC	100	a) Not detected-140.0 ppb b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 12.1 +or- 17.1 ppb b) 7.3 +or- 17.2 ppb c) 22.1 +or- 12.3 ppb d) 14.8 +or- 18.3 ppb e) 17.0 +or- 23.0 ppb f) 17.0 +or- 26.2 ppb g) 13.7 +or- 14.5 ppb	a) All subjects b) 56 subjects, mother's age 18-25 yr c) 34 subjects, mother's age 26-34 yr d) 36 subjects, vegetarian mothers e) 56 subjects, non-vegetarian mothers f) 42 subjects, rural g) 42 subjects, urban Cord blood, collected at delivery b) and c) significantly different Residents of Lucknow, India INDIA: ADULTS; AGE; PETUS; BLOOD; PLACENTA; CHLORINE ORGANIC COMPOUNDS; DDT; DDE; DDB; HEACHLOCHLORINASE; LINDANE; PESTICIDES; AGRICULTURE; BIOACCUMULATION; DIETS; PRESERVED; RURAL AREAS; URBAN AREAS; PESTICIDE RESIDUES; POPULATION EXPOSURE	Saxena, M.C. Siddiqui, M.K.J. Shargava, A.K. Kishna Nutti, C.B. Kutty, O. 1981 Archives of Toxicology 48:129-134

NEXT PAGE

[illegible]

ethyl alcohol (95 CI)

Ethanol (9 CI)

EQ-17-5

22-86-O
MP -117.3 C, BP 70.32 C, VP 40 mm Hg at 19 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6286 Blood	Inhalation	GC	10	a) Not given b) Not given c) Not given d) Not given	a) 0.27 wt% - 0.04 g/l b) 0.75 wt% - 0.07 g/l c) 0.68 wt% - 0.10 g/l d) 0.72 wt% - 0.18 g/l	a) 0.8 g/kg, 10 subjects b) 0.8 g/kg, 10 subjects c) 0.8 g/kg, 10 subjects d) 0.8 g/kg, 10 subjects Mean peak levels after single dose. Healthy 21-26 yr olds, at 65-82 kg Psychophysiological functions impaired. Deleterious effects of xylene and alcohol usually additive. Antagonistic effects on body balance at the higher xylene level FINLAND: ADULTS; BLOOD; DRUGS; ALCOHOLS; ALCOHOLIC BEVERAGES; ATMOSPHERE; INHALATION; SOLVENTS	Savolainen, K. 1980 Acta Pharmacologica et Toxicologica 46(5):366-372
6287 Breath		GC/MS	28	4-15 ng/l	7 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS; BREATH; ALCOHOLS; CHLORINE FLUORIC COMPOUNDS; CHLOROFORM	Kotorynski, B. Gabriel, G. O'Meill, R. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

Ethylene glycol, dinitrate (8 CI)
1,2-Ethanediol, dinitrate (9 CI)
C28-98-6
C2-88-82-06
MW 152.07, BP -20 C, BP 110 C (explosive)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6348 Blood	Dermal	GC-EC	16	a) 2-185 ug/ml b) 40-123.3 ug/ml	a) Not given b) Not given	a) 3 hr after start of work. Not detected prior to start of work. b) Morning and afternoon samples, every other day for 5 days. Morning levels generally higher. Range of mean Data also by sex and occupation Workers at dynamite factory, Japan Fall in blood pressures, headaches INDUSTRIAL CHEMICALS: JAPAN; SEX: BLOOD: URINE: NITRATES: BLOOD PRESSURE: HEALTH HAZARDS: INDUSTRIES: OCCUPATIONAL HAZARDS	Fukuchi, T. 1981 International Archives of Occupational and Environmental Health 48:339-346
6349 Urine	Dermal	GC-EC	3	4.3-37.7 ug/ml	Not given	Morning and afternoon samples, every other day for 5 days Range of means Workers at dynamite factory, Japan Fall in blood pressures, headaches INDUSTRIAL CHEMICALS: JAPAN; SEX: BLOOD: URINE: NITRATES: BLOOD PRESSURE: HEALTH HAZARDS: INDUSTRIES: OCCUPATIONAL HAZARDS	Fukuchi, T. 1981 International Archives of Occupational and Environmental Health 48:339-346

Ethylene, tetrachloro- (8 CI)
Ethene, tetrachloro- (9 CI)
C2-Cl8
MW 165.85, BP 121 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6350 Blood	Inhalation	GC/MS	1	Not given	4.4 ug/100 ml	Autopsy. Acute exposure in dry cleaning machine. Tests for levels in urine and stomach contents negative. Tests for alcohol and other drugs negative. 33 yr old AUTOPSY: CASE HISTORIES: BLOOD: BRAIN: LUNGS: CHLORINATED HYDROCARBONS	Lehman, T. 1976 Clinical Toxicology 15(4):411-415
6351 Brain	Inhalation	GC/MS	1	Not given	36 ug/100 g	Autopsy. Acute exposure in dry cleaning machine. Tests for levels in urine and stomach contents negative. Tests for alcohol and other drugs negative. 33 yr old AUTOPSY: CASE HISTORIES: BLOOD: BRAIN: LUNGS: CHLORINATED HYDROCARBONS	Lehman, T. 1976 Clinical Toxicology 15(4):411-415

(SEE PAGE)

Phylene, tetrachloro- (8 CI)
 Phylene, tetrachloro- (9 CI)
 127-18-a
 C2-C18
 MU 165.85, BP 121 C

(CONTINUED)

TOXIC	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6352 Urine	Inhalation	GC/MS	1	Not given	0.3 mg/100 g	Autopsy. Acute exposure in dry cleaning machine. Tests for levels in urine and stomach contents negative. Tests for alcohol and other drugs negative. 33 yr old AUTOPSIES: CASE HISTORIES: BLOOD; BRAIN; LUNGS: CHLORINATED HYDROCARBONS	Lukasewski, T. 1979 Clinical Toxicology 15(4):411-415
6353 Milk		GC/MS	42	a) 0.9-6.3 ng/ml b) 4.0-43 ng/ml c) 0.7-26 ng/ml d) 0.1-2.5 ng/ml e) 0.4-19 ng/ml f) 0.1-43 ng/ml	a) 2.52 $\pm$ 0.21 b) 15.9 $\pm$ 0.9 c) 3.41 $\pm$ 0.7 d) 0.79 $\pm$ 0.75 e) 3.21 $\pm$ 0.02 f) 4.10 $\pm$ 0.15 ng/ml	a) Bayonne, NJ, 6 samples b) Jersey City, NJ, 5 samples c) Pittsburgh, PA, 12 samples d) Baton Rouge, LA, 10 samples e) Canton, OH, 5 samples f) Total, NJ, 5 samples Due to small sample size and nonrandom sampling, data cannot be extrapolated to entire population Study measured environmental pollutants in milk, evaluated using milk in pollutant studies near chemical manufacturing plants and/or industrial facilities. Additional data, U.S. and foreign, reviewed. For additional information contact Environmental Protection Agency, Exposure Assessment Division, Office of Toxic Substances, Washington, DC 20461 Lactating volunteers, residing in area >12 mi, no travel out of area during preceding wk LOUISIANA: NEW JERSEY: PENNSYLVANIA: TEXAS: VIRGINIA: ADULTS: MILK: WASHINGTON: INFANTS: BENZENE: CHLORINATED HYDROCARBONS: CHLOROPHENYLENE: INDUSTRIAL AREAS: INDUSTRIAL CHEMICALS: LACTATION: PESTICIDE RESIDUES: URBAN AREAS: INDUSTRIAL CHEMICALS: SOLVENTS	Erickson, M.D. Harris, R.S.M., III Pellizzari, E.D. Toner, K.B. Waddell, M.D. Whitaker, D.A. 1980 EPA 560/13-80-029, 153 pp.
6354 Urine	Inhalation		34	a) < 50 ng/l b) 50-100 ng/l c) 50-170 ng/l	a) Not given b) Not given c) Not given	a) 25 ppm or less in air b) 25-75 ppm in air c) 75-400 ppm in air No linear correlation, plateau reached at about 75 ppm Tetrachloroethylene workshop employees. JAPAN: DRINK: CHLORINATED HYDROCARBONS: INDUSTRIAL ATMOSPHERES: PESTICIDES: OCCUPATIONAL HAZARDS: INDUSTRIAL CHEMICALS	Ikeda, M. 1977 Environmental Health Perspectives 21:239-245

Ethylene, trichloro- (8 CI)
Ethane, trichloro- (9 CI)

78-01-6
C2-H-Cl3

HW 131.40, HP 73 C, BP 87.1 C, VP 100 mm Hg at 32 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6355 Breath		GC	20	a) 53-1.3 ppm b) 29-2.4 ppm c) 16-0.7 ppm d) 2.8-0.18 ppm	a) Not given b) Not given c) Not given d) Not given	a) 0 and 16 hr postexposure, 200 ppm b) 0 and 16 hr postexposure, 200 ppm plus alcohol c) 0 and 16 hr postexposure, 100 ppm d) 0 and 16 hr postexposure, 20 ppm 7 1/2 hr exposure time Range of means, estimated from graph. Data also for other exposures. Healthy 19-46 yr olds in exposure chamber ADULTS; BREATH; ALCOHOLS; CHLORINATED HYDROCARBONS	Stewart, E.D. Sake, C.L. Peterson, J.E. 1974 Archives of Environmental Health 29:6-13
6356 Urine	Inhalation		51	a) 0-0.9 mg/l b) Not given c) Not given	a) Not given b) 84 mg/l c) 421 mg/l	a) No exposure b) 10 ppm in air, fiducial range (p=0.10) 58-122 mg/l c) 50 ppm in air, fiducial range (p=0.10) 292-408 mg/l Total trichloro compounds (including triethylamine, trichloroethanol and trichloroacetic acid). Linear correlation established. Trichloroethylene workshop employees JAPANESE; URINE; CHLORINATED HYDROCARBONS; INDUSTRIAL ATMOSPHERES; METABOLITES; OCCUPATIONAL HAZARDS; INDUSTRIAL CHEMICALS	Iteda, H. 1977 Environmental Health Perspectives 21:239-245

Hydrene, 1,1'-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)

Benzenes, 1,1'-dichloro-2,2-bis(p-chlorophenyl)- (9 CI)

72-55-9
C18-H8-Cl4

HW 318.02, BP 91.4 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6357 Adipose		GC	a) 19 b) 9 c) 9	a) 2.15-133.50 ug/g b) 0.65-10.50 ug/g c) Not detected-5.71 ug/g	a) 18.36 +or- 33.27 ug/g b) 1.05 +or- 3.49 ug/g c) 2.65 +or- 2.35 ug/g	a) Torreón, Mexico. Agricultural region with high pesticide use (19 samples >0.01 ug/g) b) Mexico City. Pesticide exposure mainly from foods shipped in from other areas (9 samples >0.01 ug/g) c) Puebla. Industrial and traditional agricultural region with 100 ug/g pesticide use (7 samples >0.01 ug/g) Levels based on extractable lipids. Detectable levels >0.005 ug/g Residents of Mexico MEXICO; ADIPOSES; ADIPOSE TISSUE; SUBSTITUTES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; PDI; DDI; DDI; DIELDRIN; HEXACHLOROCYCLOHEXANE; LINDANE; PESTICIDES; PESTICIDE RESIDUES; POPULATION EXPOSURE; URBAN AREAS	Albert, L. Henderson, P. Cebrian, S.E. Portales, I. 1980 Archives of Environmental Health 35(5):262-269

(NEXT PAGE)

Phyrene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'- (dichloromethylene)bis(4-chloro- (9 CI)
C16-H8-Cl4
NW 318.02, NP 86.6 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6358 Blood		GC	100	a) 2.0-324.8 ppb b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 18.8 +or- 19.5 ppb b) 18.4 +or- 19.2 ppb c) 27.6 +or- 38.3 ppb d) 18.3 +or- 13.9 ppb e) 28.3 +or- 50.7 ppb f) 23.6 +or- 36.9 ppb g) 28.7 +or- 38.4 ppb	a) All subjects ages 18-25 yr b) 60 subjects, ages 26-34 yr c) 40 subjects, vegetarians d) 42 subjects, vegetarians e) 58 subjects, non-vegetarians f) 43 subjects, rural g) 57 cases, urban Maternal blood, collected 8-12 hr before parturition b) c) d) and e) significantly different Residents of Lucknow, India INDIA: ADULTS; AGE; SEXES; BLOOD; PLACENTA; CHLORINE ORGANIC COMPOUNDS; DIET; DDT; DDT; METHACHLOROCYCLOPHENYL; LINDANE; PESTICIDES; AGRICULTURE; BIODISTRIBUTION; DIETS; PREGNANCY; RESIDUES; POPULATION EXPOSURE RESIDUES; POPULATION EXPOSURE	Saxena, M.C. Siddiqui, N.K.J. Bhargava, A.K. Kishan Murti, C.B. Kutty, D. Archives of Toxicology 48:127-134
6359 Blood, fetal		GC	100	a) 1.0-650 ppb b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 15.8 +or- 31.5 ppb b) 13.3 +or- 8.8 ppb c) 13.1 +or- 24.6 ppb d) 35.3 +or- 139.5 ppb e) 20.5 +or- 28.4 ppb f) 15.4 +or- 25.3 ppb g) 22.8 +or- 46.7 ppb	a) All subjects b) 56 subjects, mother's age 18-25 yr c) 36 subjects, mother's age 26-34 yr d) 36 subjects, vegetarian mothers e) 54 subjects, non-vegetarian mothers f) 48 subjects, rural g) 48 subjects, urban Cord blood, collected at delivery Residents of Lucknow, India INDIA: ADULTS; AGE; SEXES; BLOOD; PLACENTA; CHLORINE ORGANIC COMPOUNDS; DIET; DDT; METHACHLOROCYCLOPHENYL; LINDANE; PESTICIDES; AGRICULTURE; BIODISTRIBUTION; DIETS; PREGNANCY; RESIDUES; POPULATION EXPOSURE RESIDUES; POPULATION EXPOSURE	Saxena, M.C. Siddiqui, N.K.J. Bhargava, A.K. Kishan Murti, C.B. Kutty, D. Archives of Toxicology 48:127-134
6360 MLR		GC/MS	5	a) 45-73 ng/ml b) 38-101 ng/ml c) 38-101 ng/ml	a) 59 ng/ml b) 76 ng/ml c) 71 ng/ml	a) Pittsburgh, Pa. 2 samples b) Charleston, W.V. 3 samples c) Total, a)-b) Selected samples Lactating volunteers, residing in area >12 mi. no travel out of area during preceding wk ICULISTIA: NEW JERSEY; PENNSYLVANIA; WEST VIRGINIA; ADULTS; MILK; MEASUREMENT METHODS; PESTS; CHLORINATED HYDROCARBONS; PESTS; CHLOROBENZENES; CME; INDUSTRIAL AREAS; INDUSTRIAL EMISSIONS; LACTATION; PESTICIDE RESIDUES; URBAN AREAS; INDUSTRIAL CHEMICALS; SOLVENTS	Zickow, A.D. Harris, B.S.M., III Pellizzari, F.D. Cramer, K.B. Maddala, R.D. Whitaker, D.A. 1980 EPA 560/13-80-029, 153 PF.

(NEXT PAGE)

3 0 0 0 AM 1 20 0015 00

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6361 Placenta		GC	100	a) Not detected-234.7 ppb b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 22.0 μ g/g b) 24.9 μ g/g c) 31.3 μ g/g d) 37.5 μ g/g e) 22.9 μ g/g f) 30.6 μ g/g g) 29.3 μ g/g	a) All subjects b) 60 subjects, ages 18-25 yr c) 40 subjects, ages 26-34 yr d) 42 subjects, vegetarians e) 56 subjects, non-vegetarians f) 43 subjects, rural g) 57 subjects, urban Tissues collected at delivery b) and c) significantly different Residents of Lucknow, India INDIA: AGE; SEX; PTGS: BLOOD PLACENTA: CHLORINE ORGANIC COMPOUNDS; DET: DDT; DDE; DDT: TRIACHLOROCYCLOHEXANE; LINDANE; PESTICIDES: CHLOROCYCLOHEXANE; CHLOROCYCLOHEXANE; CHLOROCYCLOHEXANE; RURAL AREAS: URBAN AREAS; PESTICIDE RESIDUES: POPULATION EXPOSURE	Saxena, K.C. Siddiqui, M.A.D. Bhargava, A.K. Krishna Murli, C.B. Kati, D. 1981 Studies of Toxicology 86:177-138

Perkins

9007-73-2
EFFECT COMPOSITION UNKNOWN OR UNDETERMINED

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	CENTRAL INFORMATION	REFERENCE
6362 Blood, serum		RTA	a) 6 b) 6	a) 36.9-3409 ug/ml b) 3.4-65.9 ug/ml	a) 1286 ug/ml b) 319 ug/ml	a) Subjects with increased Fe stores b) Subjects with normal Fe stores Serum ferritin levels did not reflect tissue iron levels Liver biopsy best diagnostic method. Fasly with triceritotic hemochromatosis See England Journal of Medicine 296 (25): 1422-1426	Feller, E.R. Post, A. Wands, J.A. Carter, E.A. Foster, G. Fourides, I.A. Kassabach, E.J. 1977
4343 Blood, serum			86	a) 17-350 ug/l b) 21-270 ug/l c) 16-340 ug/l d) 26-170 ug/l e) 13-500 ug/l f) 40-900 ug/l g) not given	a) 90 ug/l b) 100 ug/l c) 75 ug/l d) 45 ug/l e) 235 ug/l f) 390 ug/l g) 333 ug/l	a) 36 Ethiopian mothers b) 23 non-privileged (mean from a), mean Fe 110 ug/l (sd 20 ug/l) c) 15 privileged (mean from a), mean Fe 150 ug/l (sd 20 ug/l) d) Fe little slightly less than 200 ug/day e) 10 Swedish mothers, Fe supplement during pregnancy f) Cord blood, 15 Ethiopian newborns cf group c) mothers g) Cord blood, 10 Swedish newborns of group d) mothers h) Cord blood, 5 newborns of Fe-deficient group c) mothers i) a) and b) differed, P<0.001. b) and c) not significantly different. Ethiopians non-privileged (mean age 19.7 yr) and privileged (mean age 23.1 yr) mothers. Swedish mothers (mean age 29.8 yr). Ethiopian privileged newborns (mean at 3356 g, mean gestation 40.7 wk). Swedish newborns (mean at 3811 g, mean gestation 39.4 wk). ETRIOPIA: AGENTS: SWEDEN: NEWBORN; AFRICA: BLOOD SERUM; IRON; STRAUS; DIEB; FOODS; PREGNANCY	Gehrke-Medley, E. Birgegaard, G. 1981 Scandinavian Journal of Haematology 27:247-252

Fluoride
16984-48-8
MW 18.9984

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6364 Blood, serum			8	0.044-0.076 ppm	0.051	Rural Chinese CHEM: BLOOD SERUM; NEALOSPERMPT METHODS: FLUORIDE; FLUORINE COMPOUNDS: RURAL AREAS	Bellale, J. 1981 Science 212:1509-1511
6365 Teeth		ISE	a) 51 b) 61 c) 71	a) Not given b) Not given c) Not given Adjusted for depth	a) 3.364 ppm b) 4.179 ppm c) 2.036 ppm Adjusted for depth	a) Sodium fluoride varnish (Duraphat), 2.2% fluoride b) Silane fluoride varnish (Fluor Protector), 0.7% fluoride c) No topical fluoride treatment d) Paste portion of enamel dissolved away to measure fluoride content e) Adjusted for depth f) Adjusted for 3% semi-annual applications (see a, b) g) Exposed to fluoridated drinking water (1.0-1.2 ppm) since birth h) Fluoridated toothpastes commonly used (69%) i) Fluoride content decreased with increasing depth j) a) and b) significantly different k) 13-15 yr olds, Finland LISLAND: CHILDREN; TEST: DENTISTRY; IN VIVO ANALYSIS: FLUORIDE; BIOACCUMULATION: DRINKING WATER; POPULATION EXPOSURE	Seppä, L. Luoma, M. Rautanen, M. 1982 Caries Research 16:7-11
6366 Urine	Ingestion		a) 10	a) Not given b) 2.5-2.9 mg/day c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 0.0 mg b) Not given c) 2.6 mg/day d) 2.5 mg/day (63%) e) 2.5 mg/day (54%) f) 7.5 mg/day (54%) g) 14.0 mg/day (54%) h) 21.0 mg/day (21.0%)	a) 18-day excess excretion after retention of 114 mg b) 3.4-4.3 mg/day plus 200-2200 mg/day c) Fluoride retention unaffected at 18 mg/day dose d) Dose 4.4 mg/day for 26 days. Net absorption 96% e) Dose 5.4 mg/day plus 30 ml aluminum hydroxide for 22 days. Net absorption 41% due to increased excretion of fluoride in feces f) 4 mg/day for 28 days g) 14 mg/day for 32 days h) 25 mg/day for 90 days i) 44 mg/day for 76 days ADULTS: FECES; URINE; COMPARATIVE EVALUATIONS; REVIEW: FLUORIDE	Speiser, H. Osis, D. Lander, R. 1980 Science of the Total Environment 17:11-12

Fluorine
7782-41-4

Atw 18.9984, MW -219.61 C, BP -188.13 C, ρ 100 mm Hg at -203 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6367 Blood, serum			8	0.004-0.017 ppm	0.0106 ppm	Cratic form Rural Chinese not exposed to fluorochelicals CHEM: BLOOD SERUM; NEALOSPERMPT METHODS: FLUORIDE; FLUORINE COMPOUNDS: RURAL AREAS	Bellale, J. 1981 Science 212:1509-1510

(NEXT PAGE)

Fluorine
7782-41-4

At 18.988, MP -219.61 C, BP -186.13 C, VP 100 mm Hg at -203 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	REFERENCE
6368 Liver			30	0.06-1.4 ug/g wet wt	Not given	Category 1 (first priority element) as proposed by International Workshop on Monitoring Environmental Materials and Specimen Banking Autopsies, Baltimore, MD, Minneapolis, MN, and Seattle, WA HARTLAND: MINNESOTA; WASHINGTON: AUTOPSIES; LIVER: MEASUREMENT METHODS: ALUMINUM; ARSENIC; BARIUM; CHROMIUM; COBALT; COPPER; FLOORING; IRON; LEAD; MANGANESE; MERCURY; POTASSIUM; SODIUM; STRONTIUM; TELLURUM; SILICON; ZINC; POPULATION EXPOSURE

Fluorine
7782-41-4

At 18.988, MP -219.61 C, BP -186.13 C, VP 100 mm Hg at -203 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	REFERENCE
6369 Breath		GC/MS	28	0.27-3.6 ug/l	1 ug/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize atmospheric content of exposure constituents. ACUTS: BREATHS; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES

Fluorine
7782-41-4

At 18.988, MP -219.61 C, BP -186.13 C, VP 100 mm Hg at -203 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	REFERENCE
6370 Blood, serum	Injection	Enzymatic	9	1.48-5.83 mg/ml	Not given	Dom, 0.75-1.75 g/kg/2 hr. Steady-state levels. AUC 194.9-672.6 ug/ml 9-20 yr olds with Reye's syndrome Temporary renal dysfunction and hemolysis in 2 patients ADULTS: CHILDREN; BLOOD SERUM; DRUG THERAPY; DRUGS

Gold

7480-57-5

BP 196.9665, BP 1068.76 C, BP 2700 C, VP 1 mm Hg at 106.9 C, 10 mm Hg at 2160 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6371 Hair		NA	56	0.0078X10 (E-6) - 105.22X10 (E-4) g/cu cm	0.0645X10 (E-6) g/cu cm	3 ca segments of single hairs Some samples below detection limits ANALYSIS: HAIR: FORENSIC MEDICINE; RESURGENT RETROIDS: ARTISCHY; ARSENIC; BROMINE; COPPER; GOLD; LAPTHAW; MANGANESE; MERCURY; METALS: SILVER; SODIUM; STIMULATION: ZINC; INDUSTRIAL ATMOSPHERES	Dykczynski, R. Mazoli, R. 1976 Journal of Radioanalytical Chemistry 31:267-289
6372 Hair		NA		a) 0.01-0.78 ppa b) 0.01-0.22 ppa c) 0.01-0.64 ppa	a) 0.08 +or- 0.12 ppa b) 0.08 +or- 0.06 ppa c) 0.14 +or- 0.14 ppa	a) 12 ca length, 101 samples b) Root sections, 16 samples c) Distal section, 16 samples Metropolitan Bombay, India INDIA: ANOLISCHWIS: ADOLTS: HAIR: ARTISCHY: ARSENIC; BROMINE; CADMIUM; CHLORINE; CHROMIUM; COBALT; COPPER; GOLD; IODINE; IRON; LAPTHAW; MANGANESE; POTASSIUM; SCANDIUM; SILVER; SODIUM; ZINC ILLUSTRATION: EXHIBITION: FOSSEL INDIA: COBALT: IRON: INDUSTRIAL INDUSTRIAL EMISSIONS: INDUSTRIAL POLLUTION: POPULATION EXPOSURE: URBAN AREAS: INDUSTRIAL CHEMICALS	Rhot, K.R. Araschales, J. Vengasabeswaran, S. Gangadharan, S. 1982 Science of the Total Environment 22:169-178

Resonance (8 CI)

Resonance (Fe203) (8 CI)

7480-57-5

742-03

BN 159.7

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6373 Lung	Inhalation		16	a) 4.15-10.11% dry wt b) 4.61-8.00% dry wt c) 1.99-2.95% dry wt d) 1.11-2.75% dry wt	a) Not given b) Not given c) Not given d) Not given	a) Complicated pneumoconiosis, large massive lesions b) Complicated pneumoconiosis, moderate lesions c) Complicated pneumoconiosis, small massive lesions d) Simple pneumoconiosis, no massive lesions Exposure levels not reported. Fock miners LUNGS: IRON: METALS: MINING; OCCUPATIONAL HAZARDS	Guest, L. 1981 Analyst 106:663-675

Heptane
142-82-5
C7-H16
BP 98.52 C, VP 40 mm Hg at 22.3 C
MW 106.20

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6376 Breath		GC/MS	28	0.3-4.5 ng/l	2.1 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROPHENYLS	Krotosky, B. Gabriel, G. O'Neill, R. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

Heptane, 2,2-dimethyl-
107-66-7
C9-H20
BP 128.25, MP -113 C, BP 130 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6375 Breath		GC/MS	28	0.5-2.5 ng/l	1 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROPHENYLS	Krotosky, B. Gabriel, G. O'Neill, R. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

Heptane, 2,4-dimethyl-
221-23-2
C9-H20
BP 128.26, BP 133.5 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6376 Breath		GC/MS	28	0.3-1.8 ng/l	0.7 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROPHENYLS	Krotosky, B. Gabriel, G. O'Neill, R. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6377 Fetach		GC/MS	26	0.18-1.7 mg/l	0.6 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Figid protocol 14 days before and during study to minimize heaber and amount of exogenous constituents.	Kotoszynski, B. Ghriel, G. O'Meill, N. Claudio, M.P.A. 1977 Journal of Chromatographic science 15:239-244
						ACRES; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENE	

Heptyl alcohol (8 CI)
 1-Heptanol (9 CI)
 111-70-6
 C7-H16-O
 MW 116.2, BP 175.8 C, VP 1 mm Hg at 22.4 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6378 Breath		GC/MS	28	2.7-8 ng/l	4 ng/l	Estimated from graph Healthy 16-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize naster and amount of exogenous constituents.	Krotoszynski, R. Gabriel, G. O'Mall, H. Clandic, W.P.A. 1977 Journal of Chromatographic Science 15:139-74

000000
 Y10-54-3
 C6-H14
 MW 66.17, BP 68.7 C, VP 100 mm Hg at 15.9 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6379 Breath		GC/MS	29	2-10 ug/l	4 ug/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Radio protocol 14 days before and daily to determine number and amount of exogenous constituents.	Kotocaynski, B. Gabriel, G. O'Swell, R. Ciascio, R.P.A. 1974 Journal of Chromatographic Science 15:239-244
6380 Urine	Inhalation	GC	81	a) 0.3-21.7 mg/l b) 0.1-1.2 mg/l c) 0.7-17.5 mg/l d) 0.7-11.5 mg/l	a) 5.4 mg/l b) 0.9 mg/l c) 3.7 mg/l d) 3.3 mg/l	a) 2,5-Hexanedione b) 2-Hexanol c) 2,5-Dimethylfuran d) gamma-Valerolactone Metabolites of n-hexane found in workers exposed to 25-500 mg/cu m (mean 182 mg/cu m) commercial benzene Workers in shoe factories.	Perbelli, L. Bagnone, P. Fagionato, G. 1991 British Journal of Industrial Medicine 39:10-26

Benzene, 1-chloro-

44-10-5

C6-H13-Cl

MW 120.62, BP -94 C, BP 134 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6381 Breath		GC/MS	28	0.55-3.5 ng/l	1.4 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotosky, B. Gabriel, G. O'Neill, E. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

Benzene, 2,3-dimethyl-

58-94-1

C8-H18

MW 114.23, BP 116 C, VP 10 mm Hg at 9.9 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6382 Breath		GC/MS	28	3.5-10 ng/l	8 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotosky, B. Gabriel, G. O'Neill, E. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

Benzene, 2,3,5-trimethyl-

1069-53-0

C9-H20

MW 126.25, BP -127.8 C, BP 131.34 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6383 Breath		GC/MS	28	1.5-9.5 ng/l	3.8 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotosky, B. Gabriel, G. O'Neill, E. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
638a Breath		GC/MS	28	1.7-5.5 mg/l	3 mg/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. No significant differences observed during study to smoking, sex and amount of exogenous constituents.	Kroczynski, B. Gabriel, G. O'Mall, R. Wright, J. 1976aio, R.P.A. Journal of Chromatographic Science 15:239-244

Indene (8 CI)
1H-Indene (9 CI)
9E-13-6
C9-H8
MW 116.2, η_F -1.4

TISSUE	EXPOSURE SITE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6385 Breast		GC/MS	26	0.19-0.32 mg/l	0.27 mg/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Peak 1960-1969, 1970-1979. Peak 1960-1969, 1970-1979. during study to eliminate number and amount of exogenous constituents.	Krotoszyński, E. Gabriel, G. O'Neill, R. Wentz, R. P. 1972, WHO, R. P. Journal of Chromatographic Science 15:239-244

75-3-56-2

ANAL. Calcd for $C_{10}H_{10}O$: C, 88.10%; H, 11.90%. Found: C, 88.12%; H, 11.88%. **IR** (KBr): 1760 (C=O), 1640 (C=C), 1600 (C=C), 1580 (C=C), 1540 (C=C), 1520 (C=C), 1500 (C=C), 1480 (C=C), 1460 (C=C), 1440 (C=C), 1420 (C=C), 1400 (C=C), 1380 (C=C), 1360 (C=C), 1340 (C=C), 1320 (C=C), 1300 (C=C), 1280 (C=C), 1260 (C=C), 1240 (C=C), 1220 (C=C), 1200 (C=C), 1180 (C=C), 1160 (C=C), 1140 (C=C), 1120 (C=C), 1100 (C=C), 1080 (C=C), 1060 (C=C), 1040 (C=C), 1020 (C=C), 1000 (C=C), 980 (C=C), 960 (C=C), 940 (C=C), 920 (C=C), 900 (C=C), 880 (C=C), 860 (C=C), 840 (C=C), 820 (C=C), 800 (C=C), 780 (C=C), 760 (C=C), 740 (C=C), 720 (C=C), 700 (C=C), 680 (C=C), 660 (C=C), 640 (C=C), 620 (C=C), 600 (C=C), 580 (C=C), 560 (C=C), 540 (C=C), 520 (C=C), 500 (C=C), 480 (C=C), 460 (C=C), 440 (C=C), 420 (C=C), 400 (C=C), 380 (C=C), 360 (C=C), 340 (C=C), 320 (C=C), 300 (C=C), 280 (C=C), 260 (C=C), 240 (C=C), 220 (C=C), 200 (C=C), 180 (C=C), 160 (C=C), 140 (C=C), 120 (C=C), 100 (C=C), 80 (C=C), 60 (C=C), 40 (C=C), 20 (C=C), 0 (C=C).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6386 Blood	Ingestion	TSZ	1	Not applicable	3.8 mg/dl	Investigation of unknown amount of 192 Pu/Am solution. Autopsy date 1981. 57 yr old, epileptic and alcoholic, found dead in residence ADULTS; AUTOPSIES; BLOOD; LIVES; URINE; MEASUREMENT METHODS; IODINE	Clark, R. M. 1981 Clinical Toxicology 10(7):897-811
6387 Hair		HA		a) 0.1-13 ppm b) 0.8-7.6 ppm c) 0.46-5.3 ppm	a) 4.2 ppm b) 2.2 ppm c) 3.0 ppm	a) 12 cm length, 80 samples b) 12 cm section, 16 samples c) Distal section, 16 samples Metropolitan Bombay, India	Bhat, K. B. Iyengar, J. Iyengar, S. Iyengar, S. 1982 Science of the Total Environment 22:169-178

NET PAGE

Iodine
7-53-56-2

LD₅₀ 126.904g, MP 113.60 C, BP 185.24 C, VP (solid) 0.03 mm Hg at 0 C, 0.305 mm Hg at 25 C, 2.154 mm Hg at 50 C, 40.76 mm Hg at 90 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6388 Liver	Ingestion	ISE	1	Not applicable	3.42 ug/dl	Ingestion of unknown amount of I ₂ 89/dl solution. Autopsy data 57 yr old, epileptic and alcoholic, found dead in residence ADULTS; AUTOPSIES; BLOOD; LIVER; URINE; MEASUREMENT METHODS; IODINE	Clark, M.W. 1981 Clinical Toxicology 18(7):807-811
6389 Urine		NA	6	0.089-0.741 ug/dl	Not given	Precipitation < 6%, Nitrate detectable level 0.05 ug/ml URINE; MEASUREMENT METHODS; IODINE	Blotchy, A.J. Dever, D.M. Greaser, W.H. Reck, E.P. 1974 Analytical Chemistry 48(7):838-842
6390 Urine	Ingestion	ISE	1	Not applicable	1.0 ug/dl	Ingestion of unknown amount of I ₂ 89/dl solution. Autopsy data 57 yr old, epileptic and alcoholic, found dead in residence ADULTS; AUTOPSIES; BLOOD; LIVER; URINE; MEASUREMENT METHODS; IODINE	Clark, M.W. 1981 Clinical Toxicology 18(7):807-811

Iridium
7-53-85-5

LD₅₀ 192.22, MP 2450 C, BP approximately 4500 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6391 Hair		NA	1	3.0X10 (E-6)-17.0X10 (E-6) g/cm	Not given	3 cm segments of single hairs Scalp samples below detection limits IRIDIUM; HAIR; FORENSIC MEDICINE; MEASUREMENT METHODS; ARTISTRY; ARSENIC; BROMINE; COPPER; GOLD; LANTHANUM; MANGANESE; MERCURY; NICKEL; SILICON; SILVER; SODIUM; STRONTIUM; ZINC; INDUSTRIAL ATMOSPHERES	Dyckowski, R. Boboli, E. 1976 Journal of Radioanalytical Chemistry 31:267-289

Iron
7439-89-6
Fe

At 55.847, HP 1535 C (pure), 1000-1300 C (cast), 1500 C (wrought), 1300 C (steel), BP 3000 C, VP 1 mg/kg at 1797 C, 10 mg/kg at 2040 C

ISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	HAZARD	MEAN	GENERAL INFORMATION	REFERENCE
6392 Adrenal gland		ES	7	Not given	230 μg -71 ppm dry wt	Normal tissue Autopsies Japan TCBQUE: ZINCORUM: ELEMENTS: JAPAN: ADOLTS: AUTOPSIES: ADRENAL GLANDS: ADULTS: BONES: HEART: LIVER: KIDNEYS: LIVER: LUNGS: LYMPH NODES: SPLEEN: PANCREAS: STOMACH: THYROID: UTERUS: VAGINA: VULVA: BARIUM: CADMIUM: CALCIUM: CHROMIUM: COBALT: COPPER: IRON: LEAD: MANGANESE: NICKEL: PHOSPHORUS: POTASSIUM: SILICON: SILVER: SODIUM: STRONTIUM: TITANIUM: VANADIUM: ZINC: BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6393 Aorta		ES	7	Not given	110 μg -51 ppm dry wt	Normal tissue Autopsies Japan TCBQUE: ZINCORUM: ELEMENTS: JAPAN: ADOLTS: AUTOPSIES: ADRENAL GLANDS: ADULTS: BONES: HEART: LIVER: KIDNEYS: LIVER: LUNGS: LYMPH NODES: SPLEEN: PANCREAS: STOMACH: THYROID: UTERUS: VAGINA: VULVA: BARIUM: CADMIUM: CALCIUM: CHROMIUM: COBALT: COPPER: IRON: LEAD: MANGANESE: NICKEL: PHOSPHORUS: POTASSIUM: SILICON: SILVER: SODIUM: STRONTIUM: TITANIUM: VANADIUM: ZINC: BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6394 Blood, serum			a) 6 b) 6	a) 190-330 $\mu\text{g}/\text{dl}$ b) 54-175 $\mu\text{g}/\text{dl}$	a) 259 $\mu\text{g}/\text{dl}$ b) 116 $\mu\text{g}/\text{dl}$	a) Subjects with increased Fe stores b) Subjects with normal Fe stores Serum levels did not reflect tissue levels Liver biopsy best diagnostic method Easily with precipitatoric hemochromatosis CHELATING AGENT: GERTIC STUDIES: CASE HISTORIES: LIVER DISPHASE: METAL POISONING: BLOOD SERUM: LIVER: URINE: IRON	Feller, E.H. Pont, A. Wada, J.B. Carter, E.A. Koski, S. Koski, L.H. Tombach, R.J. 1977 New England Journal of Medicine 296(25):1422-1426
6395 Blood, whole		X-ray Spectrometry	27	Not given	34 ppm	Precision 74 FLOOD: MEASUREMENT METHODS: COPPER: IRON: METALS: NICKEL: SILVER: ZINC	Reese, R.C. Chen, R. Hahn, J.J. Hahn, J.J. Hahn, J.J. 1974 Analytical Chemistry 46(4):899-503

(NEXT PAGE)

ICR
7435-89-6
P 35-89-6

Age 55-647, BP 1535 C (hair), 1000-1300 C (cast), 1500 C (wrought), 1300 C (steel), BP 3000 C, VP 1 as Hg at 1787 C, 10 as Hg at 2040 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6396 Bone		MS	5	Not given	390 $\pm$ 160 ppm dry wt	Normal tissue Autopsies Japan TOMONE: URIC ACID; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; SPALT: INTERSTICES; KIDNEYS: LIVER: LUNGS: LYMPH NODES; SPLEEN: PANCREAS: STOMACH: THYROID GLANDS: TRACHEA: ALVEOLI: BARIUM; COPPER: CALCIUM: CHROMIUM: COBALT; COPPER: IRON: LEAD: MAGNESIUM; MANGANESE: METALS: MOLYBDENUM; NICKEL: NITROGEN: POLYMERIZATION; SILICON: SULFUR: SODIUM: STRONTIUM; TIN: TITANIUM: VANADIUM: ZINC; EPOCULATION: HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Terada, H. 1981 Archives of Environmental Health 36 (4): 155-165
6397 Hair		MS	60	35-100 μ g/g	Not given	Range of means, estimated from graph Assam, El Khayya, Assuit, Cairo, and Alexandria, Egypt EGYPT: HAIR: HAIR: ARTISTRY; CANDID: CINE: CHROMIUM: COBALT; IRON: MANGANESE: METALS: MOLYBDENUM; SCANDIUM: SILICON: SILVER: TUNGSTEN; ZINC: DRINKING WATER: POPULATION EXPOSURE: SOILS: URBAN AREAS	Kasperok, K. Fengat, G.V. Wahne, L.E. Wahne, L.E. Wahne, L.E. 1982 Science of the Total Environment 22:149-168
6398 Hair		MS		a) 19-260 ppm b) 43-262 ppm c) 35-166 ppm d) 40-178 ppm	a) 102 $\pm$ 50 ppm b) 110 $\pm$ 54 ppm c) 99 $\pm$ 40 ppm d) 99 $\pm$ 40 ppm	a) 12 cm length, 16 samples b) Root section, 16 samples c) Root section, 16 samples d) Stomach in a), 25 samples Metropolitan Bombay, India INDIA: ADOLESCENTS: ADULTS: HAIR; ARTISTRY: ARSENIC: BROMINE: CADMIUM; CHROMIUM: CHROMIUM: COBALT: COPPER; GOLD: IODINE: IRON: LANTHANUM; MANGANESE: POTASSIUM: SCANDIUM; SILICON: SILVER: SODIUM: TUNGSTEN; ZINC: DRINKING WATER: POPULATION EXPOSURE: SOILS: URBAN AREAS INDIA: INDUSTRIAL ATMOSPHERES; INDUSTRIAL EMISSIONS: INDUSTRIAL POLLUTION: POPULATION EXPOSURE: URBAN AREAS: INDUSTRIAL CHEMICALS	Bhat, K.R. Bhat, K.R. Bhat, K.R. Bhat, K.R. Bhat, K.R. 1982 Science of the Total Environment 22:169-178
6399 Hair		MS	3	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 19.0 μ g/g b) 5.6 μ g/g c) 9.0 μ g/g d) 12.8 μ g/g e) 11.6 μ g/g	a) Subject 1, unwashed hair b) Subject 1, after 12 successive washes in sodium lauryl sulfate c) Subject 2, unwashed hair d) Subject 2, after 12 successive acetone washes e) Subject 3, unwashed hair f) Subject 3, after 12 successive washes in sodium lauryl sulfate g) a), c), e) 6-10 determinations, each subject. Data also for other procedures and washing agents. for other procedures and washing agents. HAIR: COMPARATIVE EVALUATIONS; CANDID: COPPER: IRON: MANGANESE; ZINC	Salas, S. Salas, S. Salas, S. Salas, S. Salas, S. 1981 Analytica Chimica Acta 125:131-137

(SEE PAGE)

FORM 100-89-6
REV 55,847, NP 1535 C (part), 1000-1300 C (cont), 1500 C (renewal), 1300 C (steel), BP 3000 C, VP 1 wa Hg at 1787 C, 10 wa Hg at 2040 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	MEAN	GENERAL INFORMATION	REFERENCE
6400 Heart		ES	a) 6 b) 2 c) 3 d) 1 e) 1	a) 240 $\pm$ 30 ppm b) 235 ppm c) 357 ppm d) 180 ppm e) 200 ppm Dry wt	a) Normal healthy sea b) Chronic fatigue workers c) Chronic fatigue workers d) Airplane painter e) Stone mason Atopias Japan TCMG: ZINCUR: ELEMENTS: JAPAN: ADULTS: AUTOPSY: ADRENAL GLANDS: ADULTS: BONES: HEART: TESTES: KIDNEY: LIVER: LUNG: LYMPH NODES: SPLEEN: PANCREAS: STOMACH: THYROID GLAND: THYROID: ALBUMEN: BARIUM: CALCIUM: CALCIUM: CHROMIUM: COBALT: COPPER: IRON: LEAD: MAGNESIUM: MANGANESE: METALS: MOLYBDENUM: NICKEL: PHOSPHORUS: POTASSIUM: SILICON: SILVER: SODIUM: STRONTIUM: TIN: TITANIUM: VANADIUM: ZINC: BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS	Tetsuka, H. 1981 Archives of Environmental Health 36(4):155-165
6401 Intestine		ES	10	170 $\pm$ 75 ppm dry wt	Normal tissue Atopias Japan TCMG: ZINCUR: ELEMENTS: JAPAN: ADULTS: AUTOPSY: ADRENAL GLANDS: ADULTS: BONES: HEART: TESTES: KIDNEY: LIVER: LUNG: LYMPH NODES: SPLEEN: PANCREAS: STOMACH: THYROID GLAND: THYROID: ALBUMEN: BARIUM: CALCIUM: CALCIUM: CHROMIUM: COBALT: COPPER: IRON: LEAD: MAGNESIUM: MANGANESE: METALS: MOLYBDENUM: NICKEL: PHOSPHORUS: POTASSIUM: SILICON: SILVER: SODIUM: STRONTIUM: TIN: TITANIUM: VANADIUM: ZINC: BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS	Tetsuka, H. 1981 Archives of Environmental Health 36(4):155-165
6402 Kidney		ES	a) 8 b) 2 c) 3 d) 1 e) 1	a) 320 $\pm$ 110 ppm b) 255 ppm c) 293 ppm d) 160-110 ppm e) 390 ppm Dry wt	a) Normal healthy sea b) Chronic fatigue workers c) Chronic fatigue workers d) Airplane painter e) Stone mason Atopias Japan TCMG: ZINCUR: ELEMENTS: JAPAN: ADULTS: AUTOPSY: ADRENAL GLANDS: ADULTS: BONES: HEART: TESTES: KIDNEY: LIVER: LUNG: LYMPH NODES: SPLEEN: PANCREAS: STOMACH: THYROID GLAND: THYROID: ALBUMEN: BARIUM: CALCIUM: CALCIUM: CHROMIUM: COBALT: COPPER: IRON: LEAD: MAGNESIUM: MANGANESE: METALS: MOLYBDENUM: NICKEL: PHOSPHORUS: POTASSIUM: SILICON: SILVER: SODIUM: STRONTIUM: TIN: TITANIUM: VANADIUM: ZINC: BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS	Tetsuka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

Iron
7439-89-6

NEW 55.007, MP 1535 C (pure), 1000-1300 C (cast), 1500 C (wrought), 1300 C (steel), BP 3000 C, VP 1 mm Hg at 1787 C, 10 mm Hg at 2040 C (CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	SINGLE	MEAN	GENERAL INFORMATION	REFERENCE
6803 Liver		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) 350-450 ppm c) 350-4500 ppm d) Not applicable e) Not applicable Dry wt	a) 1100 mcg - 970 ppm b) 725 ppm c) 1900 ppm d) 1800 ppm e) 660 ppm Dry wt	a) Normal healthy sea b) Chromium plating workers c) Chromeate refinishing workers d) Airplane painter e) Stone mason Autopsies Japan TOOTH: VITCECTUM; KIDNEY: JAPAN; LUNGS: AUTOPSY; RENAL GLANDS; KIDNEY: HEART; LIVER: TESTES; SPLEEN: LIVER; LUNG: LYMPH NODES; SPLEEN: PARACETAMOL; STOMACH: TITROLO GLANDS: TRACHEA; ALUMINUM; BARIUM; CALCIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; ZINC; ZINC; ZINC; ZINC; BIOMONITORING; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Terakawa, E. 1981 Archives of Environmental Health 36(4):155-165
6804 Liver		AS	a) 5 b) 6	a) 800-2500 ug/100 mg b) 50-500 ug/100 mg Dry wt	a) 1450 ug/100 mg b) 217 ug/100 mg Dry wt	a) Subjects with increased Fe stores b) Subjects with normal Fe stores Liver biopsy best diagnostic method. Family with pseudirrhosis hepatocarcinoma CHEMISTRY ASPECT: CHEMIST STUDIES; CASE HISTORIES: LIVER DISEASES; RETAL POISONING; BLOOD SERUM; LIVER; URINE; IRON	Feller, F.R. Post, A. Wada, J.R. Carter, E.H. Foster, G.A. Rothman, I.L. Schachter, R.J. 1977 New England Journal of Medicine 296(25):1422-1426
6805 Liver		WA	30	70-210 ug/g	Not given	Category 2 as proposed by International Workshop on Monitoring Environmental Materials and Specimen Handling [non-polluted] trace element monitoring for "normal levels"] Autopsies, Baltimore, MD, Minneapolis, MN, and Seattle, WA MARYLAND: MINNESOTA; WASHINGTON; AUTOPSIES: LIVER; HEADQUARTERS RESEARCH: ALUMINUM; AMMONIUM; ARSENIC; BARREN: CADMIUM; CHROMIUM; COBALT; COPPER; FLUORIDE; IRON; LEAD; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; NIOBIUM; SODIUM; SILVER; STANTONIUM; THALLIUM; TIN; VANADIUM; ZINC; POPULATION EXPOSURE	Harison, S.E. Tealmar, A. Wade, S.A. 1978 EPA 600/3-81-025, 6 pp.

WRITE PAGE

Iron
7439-85-6Fe
At 55.847, mp 1535 C (pure), 1800-1300 C (cast), 1500 C (recryst), 1300 C (steel), BP 2000 C, VP 1 aa Hg at 1767 C, 10 aa Hg at 2040 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUBSTANCE OF CASES	RANGE	REAS	GENERAL INFORMATION	REFERENCE
6406 Lung		MS	a) 12 b) 2 c) 3 d) 1 e) 1	a) Not given b) 360-2000 ppm c) 920-3200 ppm d) Not applicable e) Not applicable Dry wt	a) 740 +o.- 180 ppm b) 1180 ppm c) 2306 ppm d) 460 ppm e) 1300 ppm Dry wt	a) Normal healthy man b) Chromium plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan TOXIC: TITANIUM; ELEMENTS: JAPAN; ADULTS: ATROPHIES; MINERAL GLANDS; KIDNEY: LIVER; LUNG: LIVER NODES; SPLEEN: PANCREAS; STOMACH: THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; COPPER; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, R. 1981 Archives of Environmental Health 36(4):155-165
6407 Lung	Inhalation		16	a) 5.43-11.21% dry wt b) 5.82-9.68% dry wt c) 2.47-6.08% dry wt d) 1.47-3.25% dry wt	a) Not given b) Not given c) Not given d) Not given	a) Complicated pneumoconiosis, large sensitive lesions b) Complicated pneumoconiosis, small sensitive lesions c) Complicated pneumoconiosis, small sensitive lesions d) Simple pneumoconiosis, no sensitive lesions Exposure levels not reported. Rock miners LUNGS: IRON; METALS: MINING; OCCUPATIONAL HAZARDS	Gust, L. 1981 Analyst 106:663-675
6408 Lymph node		MS	a) 3 b) 1 c) 3 d) 1 e) 1	a) Not given b) Not applicable c) 1200-1900 ppm d) Not applicable e) Not applicable Dry wt	a) 1800 +o.- 640 ppm b) 630 ppm c) 1600 ppm d) 940 ppm e) 600 ppm Dry wt	a) Normal healthy man b) Chromium plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan TOXIC: TITANIUM; ELEMENTS: JAPAN; ADULTS: ATROPHIES; MINERAL GLANDS; KIDNEY: LIVER; LUNG: LIVER NODES; SPLEEN: PANCREAS; STOMACH: THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; COPPER; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, R. 1981 Archives of Environmental Health 36(4):155-165
6409 Nail		MA	66	120-1080 ug/g	Not given	Range of mean, estimated from graph Aswan, El Kharga, Assuit, Cairo, and Alexandria, Egypt EGYPT: HAIR; NAILS; AUTOPSY; COPPER; CHROMIUM; CHROMIUM; IRON; MAGNESIUM; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Kasperok, R. Iyengar, G. V. Feinendegen, L. E. Nashish, S. Nashish, S. Nashish, S. 1982 Science of the Total Environment 22:149-168

(NEXT PAGE)

From
7439-69-6
Pg
ACR 55-647, NP 1535 C (pure), 1000-1300 C (cast), 1500 C (weight), 1300 C (steel), 10 mm Hg at 1767 C, 10 mm Hg at 2040 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6410 Pancreas		ES	5	Not given	160 $\pm$ or - 53 ppm dry wt	Normal tissue Autopsies Japan YOSHIO: MERCURY; ELEMENTS; JAPAN; AULTS; AUTOPSIES; AMERICAL GLASS; MORTA; MORTS; HEART; LIVER; KIDNEY; LIVER; LUNG; LUNG MOSES; SPLEEN; PANCREAS; STOMACH; TESTIS; GLAND; TRACHEA; ALVEOLI; BILIRUBIN; CALCULI; CALCULI; CHOLESTEROL; COBALT; COPPER; IRON; LEAD; MAGNESIUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIODISTRIBUTION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tsutsuka, R. 1981 Archives of Environmental Health 36 (4): 155-165
6411 Spleen		ES	41 9 34 2 33 3 30 1 et 1	a) Not given b) 1200-6800 ppm c) 450-1000 ppm d) Not applicable e) Not applicable Dry wt	2800 $\pm$ or - 2400 ppm a) 4000 ppm b) 4000 ppm c) 4253 ppm d) 4800 ppm e) 1980 ppm Dry wt	a) Normal healthy men b) Chronic plating workers c) Chronic refining workers d) Airplane painter e) Stone mason Autopsies Japan YOSHIO: MERCURY; ELEMENTS; JAPAN; AULTS; AUTOPSIES; AMERICAL GLASS; MORTA; MORTS; HEART; LIVER; KIDNEY; LIVER; LUNG; LUNG MOSES; SPLEEN; PANCREAS; STOMACH; TESTIS; GLAND; TRACHEA; ALVEOLI; BILIRUBIN; CALCULI; CALCULI; CHOLESTEROL; COBALT; COPPER; IRON; LEAD; MAGNESIUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIODISTRIBUTION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tsutsuka, R. 1981 Archives of Environmental Health 36 (4): 155-165
6412 Stomach		ES	10	Not given	170 $\pm$ or - 75 ppm dry wt	Normal tissue Autopsies Japan YOSHIO: MERCURY; ELEMENTS; JAPAN; AULTS; AUTOPSIES; AMERICAL GLASS; MORTA; MORTS; HEART; LIVER; KIDNEY; LIVER; LUNG; LUNG MOSES; SPLEEN; PANCREAS; STOMACH; TESTIS; GLAND; TRACHEA; ALVEOLI; BILIRUBIN; CALCULI; CALCULI; CHOLESTEROL; COBALT; COPPER; IRON; LEAD; MAGNESIUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIODISTRIBUTION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tsutsuka, R. 1981 Archives of Environmental Health 36 (4): 155-165

(SEE PAGE)

with 55.6N7, NP 1515 C (pure), 1000-1360 C (cast), 1500 C (wrought), BP 3000 C (steel), VP 1 mm Hg at 1787 C, 10 mm Hg at 2640 C (CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6413 Thyroid gland		ES	8	Not given	90 +or- 16 ppm dry wt	Normal tissue Autopsies Japan TONGUE: ZINCORION; ELEMENTS: JAPAN; ADOLYS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; TESTES; KIDNEYS: LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Terada, H. 1981 Archives of Environmental Health 36 (4): 155-165
6414 Tongue		ES	2	Not given	95 +or- 3.5 ppm dry wt	Normal tissue Autopsies Japan TONGUE: ZINCORION; ELEMENTS: JAPAN; ADOLYS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; TESTES; KIDNEYS: LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Terada, H. 1981 Archives of Environmental Health 36 (4): 155-165
6415 Trachea		ES	2	Not given	100 +or- 55 ppm dry wt	Normal tissue Autopsies Japan TONGUE: ZINCORION; ELEMENTS: JAPAN; ADOLYS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; TESTES; KIDNEYS: LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Terada, H. 1981 Archives of Environmental Health 36 (4): 155-165

INDEX PAGE

Iron
7435-89-6
Fe
At 55.047, BP 1535 C (pure), 1000-1300 C (cast), 1500 C (wrought), 1300 C (steel), BP 3000 C, VP 1 mm Hg at 1797 C, 10 mm Hg at 2040 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6416 Urine	Injection		a) 6 b) 6	a) 536-21,047 ug/24 hr b) 272-888 ug/24 hr	a) 7063 ug/24 hr b) 696 ug/24 hr	a) Subjects with increased Fe stores b) Subjects with normal Fe stores Excretion after 1 g desferrioxamine, IN Chelatable Fe extraction did not reflect tissue levels Liver biopsy best diagnostic method. Feasibly with prairirhetic heochromatosis CHELATING AGENT: GIBBY'S STUDIES: CASE HISTORIES: LIVER DISEASES: METAL POISONING: BLOOD SERUM: LIVER: URINE: IRON	Keller, E.R. Post, A. Randa, J.R. Carter, E.A. Foster, G. Fourides, I.A. Kochbucher, R.J. 1977 New England Journal of Medicine 296(25):1423-1426

Isobutyl alcohol (8 CI)
1-Propanol, 2-ethyl- (9 CI)
78-83-1
C4-H10-O
BP 74.12, BP 107.90 C, VP 10 mm Hg at 21.7 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6417 Breath		GC/MS	28	0.18-1.5 ug/l	0.5 ug/l	Estimated from graph Healthy 16-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROFREES	Krotosky, R. Gabriel, G. O'Neill, R. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

Isocetyl alcohol (8 CI)
Isocetyl alcohol (9 CI)
625-81-6
C18-H36-O
BP 130.22

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6418 Breath		GC/MS	28	1.2-6.8 ug/l	3 ug/l	Estimated from graph Healthy 16-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROFREES	Krotosky, R. Gabriel, G. O'Neill, R. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

Isoprene (6 CI)
1,3-Butadiene, 2-methyl- (9 CI)
78-79-5
CS-88
BW 88.11, BP -146.7 C, VP 36 C, VP 400 mm Hg at 15.4 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6419 Breath		GC/MS	28	15-60 ng/l	20 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Slight protocol 14 days before and during study to minimize number and amount of exogenous constituents. ACUTES: BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Protsyanski, E. Gabriel, G. O'Neill, M. Cladio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

Isopropyl alcohol (6 CI)
2-Propanol (9 CI)
67-63-0
CS-88-0
BW 86.0%, BP -88.5 to -89.5 C, BP 80.3 C, VP 10 mm Hg at 2.4 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6420 Breath		GC/MS	28	0.18-7 ng/l	1 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Slight protocol 14 days before and during study to minimize number and amount of exogenous constituents. ACUTES: BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Protsyanski, E. Gabriel, G. O'Neill, M. Cladio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

Isanthane
1239-31-0
BW 130.906, BP 920 C, BP 3458 C, VP 3230 mm Hg at 400 C, 3420 mm Hg at 760 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6421 Hair	HA	NA	4	0.1x10 (E-6)-0.27x10 (E-4) g/ca cm	Not given	3 cm segments of single hairs Some samples below detection limits IRIDIUM: HAIR; FORENSIC MEDICINE; WASHERMET METHODS: SWISCHY; ASTEC; BROMINE; COPPER; GOLD; LITHIUM; MANGANESE; MERCURY; NICKEL; SILVER; SODIUM; STRONTIUM; TUNG; INDUSTRIAL ATMOSPHERES	Protsyanski, E. Gabriel, G. 1976 Journal of Radiomaterials Chemistry 31:267-289

(NEXT PAGE)

Test Name
7039-91-0

107

At 130-906, MP 920 C, VP 3450 C, VP 3230 mm Hg at 400 C, 3420 mm Hg at 760 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DIAGNOSIS	AGE	GENERAL INFORMATION	REFERENCE
64-72							
Hair		MS					
				a) 2.00-0.22 ppm	2-05 yr	a) 12 cm length, 30 samples	Shet, K. B.
				b) 0.01-0.18 ppm	0-06 yr	b) Root sections, 18 samples	Arunchalas, J.
				c) 0.01-0.13 ppm	0-06 yr	c) Distal sections, 16 samples	Yeganehchian, S.
							Gangadharan, S.
						Metropolitan Bombay, India	
						INDIA: ADOLESCENTS: BOILTS: HAIR:	
						ANTHONY: ARSENIC: BROMINE: CADMIUM:	
						CHLORINE: CHROMIUM: COBALT: COPPER:	
						GOLD: IODINE: IRON: LANTHANUM:	
						MERCUURY: MANGANESE: NICKEL:	
						PERMANENT: POTASSIUM: SCANDIUM:	
						SILICON: SODIUM: STRONTIUM: ZINC:	
						ICLTON: STYACOMINATION: POLYMER:	
						FEELD POWER PLANTS: INDUSTRIAL:	
						AREA: INDUSTRIAL ATMOSPHERES:	
						INDUSTRIAL WISDOMS: INDUSTRIAL:	
						POLLUTION: POPULATION EXPOSURE:	
						AREA: INDUSTRIAL CEMENTS:	
						URBAN:	
						Environment 22,169-170	

Lead
7039-92-1

100

$\text{mp } 207.5^\circ$, $\text{bp } 327.0^\circ \text{ C}$, $\text{bp } 174.0^\circ \text{ C}$, $\text{vp } 1.77 \text{ mm Hg at } 100.0^\circ \text{ C}$, $1 \text{ mm Hg at } 97.0^\circ \text{ C}$, $10 \text{ mm Hg at } 116.0^\circ \text{ C}$

[illegible]

(NEXT PAGE)

Lead
7429-92-1PE
ATN 207.2, NP 327.4 C, NP 1740 C, VP 1.77 mg Hg at 1000 C, 10 mg Hg at 970 C, 10 mg Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6425 Blood	Ingestion Inhalation	AAS	1052	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 11 ug/100 al b) 8 ug/100 al c) 9 ug/100 al d) 8 ug/100 al e) 9 ug/100 al f) 9 ug/100 al g) 13 ug/100 al h) 9 ug/100 al	a) Non-smokers, alcohol intake 6 units/wk, 111 men b) Non-smokers, alcohol intake 2 units/wk, 23 women c) Non-smokers, alcohol-abstaining, 13 men d) Non-smokers, alcohol-abstaining, 80 women e) Smokers (15-24 g tobacco/day), alcohol intake 12 units/wk, 161 men f) Smokers (15-24 g tobacco/day), alcohol intake 3 units/wk, 128 women g) Smokers (15-24 g tobacco/day), alcohol-abstaining, 7 men h) Smokers (15-24 g tobacco/day), alcohol-abstaining, 29 women Increased levels of smokers explained by increased alcohol intake Smoking contributed little to blood Pb in alcohol-abstaining cases 40-yr olds, resident of Copenhagen, 56 men, 548 women FEMUR: BONES; BLOOD: LEAD; ALCOHOL BEVERAGES; BIOACCUMULATION; SMOKING; TOBACCO	Grandjean, P. Olson, J.A. Vollmar, R. International Archives of Occupational and Environmental Health 48:391-397
6426 Blood		AAS	286	a) 2-17 ug/100 al b) 3-10 ug/100 al c) 5-13 ug/100 al d) Not given	a) 6.3 +or- 2.8 ug/100 al b) 5.3 +or- 1.5 ug/100 al c) 9.4 +or- 3.2 ug/100 al d) 6.3 +or- 2.6 ug/100 al	a) 64 children, urban area of Turkey. Means from other urban areas, 6.0-6.7 ug/100 al b) 8 children, rural area around Turkey. Means from other rural areas, 4.6-9.3 ug/100 al c) 3 children living < 500 m from Pb smelter. Tibet. Significantly higher than mean d) d) 259 children, not living near plant c) No significant difference between age groups, between urban and rural residence, or between areas with light and heavy traffic density. Finnish children, newborn-7 yr olds, (41 girls, 145 boys). 172 urban, 54 rural, 80 from smelter area. Pb smelter and paint factory operate. FINLAND: AGE: CHILDREN; BLOOD: LEAD; AUTOGENITIVE: AIR POLLUTION; BIOACCUMULATION: FUMES; GASOLINE; PAINTS; RURAL AREAS; SHELTERS; URBAN AREAS	Taskiran, H. Mordani, M. Hernberg, S. Ragotzke, K. Science of the Total Environment 20:117-129
6427 Blood		AAS	a) 13 b) 9 c) 8 d) 10	a) Not given b) Not given c) Not given d) Not given	a) 0.95 +or- 0.49 ugol/l b) 0.17 +or- 0.38 ugol/l c) 0.77 +or- 0.29 ugol/l d) 1.15 +or- 0.73 ugol/l	a) Normal renal function, creatinine clearance 31-80 ml/min b) Mild renal failure, creatinine clearance 16-30 ml/min c) Moderate renal failure, creatinine clearance <16 ml/min d) Severe renal failure, creatinine clearance <16 ml/min Pb clearance was not influenced by degree of renal failure 16 men, 22 women, aged 18-72 yr KIDNEY DISEASES; BLOOD; URINE: LEAD	Campbell, A.C. Elliot, R.L. Hendith, P.A. 1981 Toxicology Letters 9:121-128

(NEXT PAGE)

Lead
7439-92-1

PE
ATW 207.2, MP 327.6 C, SP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6428 Blood	Ingestion		1	Not applicable	70 ug/100 ml	6 yr old with sickle-cell anemia, and peripheral neuropathy from paint ingestion. Dose unknown muscular weakness, tremors, bilateral wrist and foot drop CHILDREN: NEURAL POISONING; NEUROLOGIC MANIFESTATIONS; BLOOD; URINE; LEAD; METALS	Anku, V.D. Harris, J.W. 1974 Journal of Pediatrics 85(3):337-340
6428 Blood						Review Correlations between airborne Pb, blood and total levels of Pb in infants, children and adults are discussed UNITED KINGDOM: UNITED STATES; ADULTS: CHILDREN; FETUS; NEPHROS; RACIAL STUDIES; SEX; BLOOD; BODY; COMPARATIVE EVALUATIONS; REVIEW; LEAD; METALS; AUTOMOTIVE; AIR POLLUTION; GEOLINE; HEALTH HAZARDS; RURAL AREAS; URBAN AREAS	Stephens, E. 1981 International Journal of Environmental Studies 17: 73-93
6430 Blood			24	21.4-27.3 ug/100 ml	Not given	Range of mean analyses by 3 different laboratories UNITED KINGDOM: BLOOD; MEASUREMENT METHODS; LEAD; METALS; POPULATION EXPOSURE	Seasley, V.H. Wrighton, P.M.H. Belves, M.T. Blood, P.C. 1978 British Medical Journal 1(5907):576
6431 Blood						Review Effect of analytical variability on interpretation of blood lead from epidemiological data discussed 40% of variability in data attributed to analytical error, resulting in "false positive" measurements above threshold limits BLOOD; MEASUREMENT METHODS; REVIEW; LEAD; METALS	Lucas, J.E. 1981 American Industrial Hygiene Association Journal 42(2):88-96
6432 Blood		AMS	a) 68 b) 50 c) Not given d) 83 e) 73	a) 0-10 ug/100 ml b) 10-15 ug/100 ml c) 16-20 ug/100 ml d) 21-25 ug/100 ml e) 26-35 ug/100 ml	a) Not given b) Not given c) Not given d) Not given e) Not given	a) Mean (arithmetic and geometric) delta-aminolevulinic acid dehydratase activity (ALA-d) 33.9 and 32.6 uol/min/l RBC b) ALA-d 33.5 and 31.7 uol/min/l RBC c) ALA-d 32.3 and 30.6 uol/min/l RBC d) ALA-d 31.6 and 29.3 uol/min/l RBC e) ALA-d 29.4 and 26.3 uol/min/l RBC Statistical significance depends on adequate choice of distribution function for ALA-d, interval estimation, statistical significance, and range of environmental exposure Healthy nonoccupationally exposed residents of Belgium BELGIUM: ADULTS; BLOOD; LEAD; LEVULINIC ACIDS; METALS; POPULATION EXPOSURE	Sartor, P. Rondie, D. 1981 International Archives of Occupational and Environmental Health 49:45-51

(SEE PAGE)

Lead
7829-92-1

Pb
At 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6433 Blood		Fluorometry	a) 5 b) 49 c) 149 d) 192 e) 170 f) 67 g) 32 h) 6	a) 100-190 ug/l b) 200-290 ug/l c) 300-390 ug/l d) 400-490 ug/l e) 500-590 ug/l f) 600-690 ug/l g) 700-790 ug/l h) 800-890 ug/l	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 300(200-400) ug/l b) 500(300-2000) ug/l c) 600(200-4000) ug/l d) 800(100-4000) ug/l e) 1200(100-5000) ug/l f) 1800(1000-7000) ug/l g) 2200(1200-5800) ug/l h) 3200(1100-5000) ug/l Mean (range) erythrocyte porphyrin levels (expressed as coproporphyrin I) estimated from graph Children suspected of chronic Pb ingestion plus nonselect children from acute-care clinics, St. Louis MISSOURI: CHILDREN; ANEMIA; LEAD POISONING; BLOOD; MEASUREMENT METHODS; LEAD	Kane, T.L. Bettler, D.H. Sattler, M. Gupta, S. Zarkowsky, M.S. 1976 Clinical Chemistry 22(2): 161-168
6434 Blood		Dithione MS	a) 201 b) 19 c) 11	a) 0-0.20 ug/l b) 0.21-0.40 ug/l c) >0.40 ug/l	a) Not given b) Not given c) Not given	a) 83 of 108 tile workshop workers, 82 of 87 tile factory workers, and 36 of 36 controls b) 15 of 108 tile workshop workers, and 8 of 87 tile factory workers c) 10 of 108 tile workshop workers, and 1 of 87 tile factory workers No Pb intoxication observed Iran IRAN: ADULTS; CHILDREN; BLOOD; INDUSTRIAL ENGINEERING; LEAD; METALS; INDUSTRIAL ATMOSPHERES; OCCUPATIONAL HAZARDS	Sassi, G.H. Ziaei, M.A. Ghasemi, A. 1975 Environmental Pollution and Human Health, from Proceedings of the International Symposium on Industrial Toxicology, S. M. Saidi (ed.), pp. 77-87
6435 Blood			31	51-39 ug/100 ml	Not given	Initial and 18 mo values during a Pb exposure abatement program. Range of means Children in Rochester, NY NEW YORK: CHILDREN; METAL POISONING; BLOOD; LEAD; POPULATION EXPOSURE	Klein, M.C. Schlageter, M. 1975 Pediatrics 56(1):298-303
6436 Blood	Ingestion Inhalation	MS	5	a) 0.17-3.35 ug/g b) 0.08-3.12 ug/g c) 0.16-3.19 ug/g	a) 15.4 ug/g b) Not given c) Not given	a) Mean total Pb, 5 patients, 142-366 ug/day b) Isotope tracer Pb, 3 patients, 1125-121 days of 105-284 ug/day c) 125 ug of 105-284 ug/day (same as treated). The daily intake represented 40%-58% of total blood Pb suggesting input from other sources such as skeleton or atmosphere. c) Mean total Pb, 3 patients, 25-50 days after entering low-Pb, filtered-air room a) b) unfiltered air (0.4-2.1 ug Pb/cm ³), c) filtered air (0.02-0.0087 ug Pb/cm ³) b) Estimated daily Pb intake from unfiltered air Estimated respiratory intake 18 ug/g/day with exposure to 2 ug/cm ³ a. ATP PCLOTIC; DIETS; INHALATION; LEAD; BLOOD; HAIR; NAILS; SKIN; URINE	Berkowitz, M.B. Wetherill, G.W. Kopple, J.D. 1977 Journal of Laboratory Medicine 68(2):238-240

(NEXT PAGE)

Lead
7439-92-1

PE 207.2, MP 327.8 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6437 Blood		AAS	63	a) 7-30 ug/dl b) Not given c) 31-53 ug/dl	a) Not given b) Not given	a) 16 13-25 mo olds, 14 36-59 mo olds, 5 60-75 mo olds b) 13 13-25 mo olds, 12 36-59 mo olds, 3 60-75 mo olds Results of neurobehavioral tests provide evidence of altered CNS function in young children with body burdens below 30 ug/dl Asymptomatic children, most from low-income, black families in NC. Potential exposure through parents employed in Pb-related industries. NORTH CAROLINA: CHILDREN; CENTRAL NERVOUS SYSTEM DISEASES; LEAD POISONING; BLOOD; URINE; BIOACCUMULATION; METALS	Otto, D.A. Seigau, Y.A. Muller, R.E. Barton, C.E. 1981 Neurotoxicology and Clinical Neuropsychology 52:229-239
6438 Blood	Inhalation Dermal		1	a) Not applicable b) Not applicable c) Not applicable	a) 3-7 uoel/l b) 1-9 uoel/l c) 4.3 uoel/l	a) 1978 b) Dec 1979 c) Jan 1980 Source was German paint powder containing 47,750 ug/g Pb. Exposure when patient mixed powder and applied to canvas with hands. 27 yr old painter, United Kingdom General malaise, nausea, vomiting, colicky abdominal pain, constipation, muscle pain and bilateral wrist drop "blue line" on upper gingival margin. Some severe neurological symptoms. Blood lead 7.3 u/dl, no basophilic stippling. 12/79 measurements, Pb was 12.0 ug/dl and stippling was seen. GERMANY: UNITED KINGDOM; ADULTS; LEAD POISONING; BLOOD; URINE; LEAD; COSMETICS; INHALATION; OCCUPATIONAL HAZARDS; PAINTS; METALS	Grubbs, J.A.J. Horton, D.G. Wort, C.H.C. 1981 Lancet 2(8256):1159-1160
6439 Blood		AAS	38	a) Not given b) 24-35 ug/dl	a) 24.60 ug/dl b) 29.6 ug/dl	a) 2-5 yr after exposure. 16 of 38 had chelation therapy b) 5 subjects from a) who had PBP levels > 50 ug/dl and mean Pb levels < 70 ug/dl Children, mean age 4.5 yr No correlation between blood pressure and Pb levels. PBP levels or relative amount of Pb released following chelation 2-5 yr after initial exposure and therapy CHILDREN; BLOOD; URINE; LEAD; METALS; BLOOD PRESSURE	Frielandt, R.A. Brooke, C.T. Shoemaker, P.B. 1981 Archives of Environmental Health 36(6):310-315

(SEE PAGE)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6880 Blood		AAS	181	a) Not given b) Not given c) Not given d) Not given	a) 16.2 ug/100 ml b) 13.1 ug/100 ml c) 12.6 ug/100 ml d) 11.6 ug/100 ml	a) Children in town where Pb mine tailings used in construction, and attending school A where tailings were used in playground b) Children in same town, and attending school B with no mine tailings in playground c) Farm children attending school A d) Farm children attending school B Boys had slightly higher levels than girls. Mean level: 47 ug/100 ml. 5-16 yr olds, Australia e) children with Pb levels > 25 ug/100 ml had free erythrocyte protoporphyrin level > 2.0 asol AUSTRALIA: CHILDREN: SEX: BLOOD: MEAN: 47 ug/100 ml FINDINGS: HEALTH HAZARDS: MINING: SUPPL: AERIAL	Heyworth, Z. Spickett, J. Dick, M. Ravett, B. Auerbach, E. 1981 Medical Journal of Australia 2:232-236
6881 Blood			69	6-59 ug/dl	29.5 +/- 13.3 ug/dl	Increased levels generally produced increase in relative amplitude of synchronized ECG between P1 and P2 in all frequency bands Asymptomatic children, ages 13-14, mostly from low-income, black families in NC. Potential exposure through parents employed in Pb-related industries. AGE: CHILDREN: DEMOGRAPHIC: MANIFESTATIONS: BLOOD: LEAD: NEPHALS	Redigan, V.A. Otto, D.A. Miller, R. Singer, R.J. 1981 Electroencephalography and Clinical Neurophysiology 52:240-248
6882 Blood			93	a) 17-52 ug/dl b) 16-52 ug/dl c) 22-28 ug/dl d) 22-28 ug/dl	a) 28.7 ug/dl b) 29.2 ug/dl c) 27.2 ug/dl d) 27.6 ug/dl	a) Participants in Pb blood survey 5 yr earlier 75 subjects b) Same as a), but no longer attending local schools, 16 subjects c) Children with above average intelligence from a), 4 subjects d) Children with below average intelligence from a), 6 subjects Intelligence rated by classroom teacher 7-16 yr old children, United Kingdom UNITED KINGDOM: CHILDREN: LEAD: NEPHALS: POPULATION EXPOSURE	High, R.P. 1977 Lancet 2(8098):421
6883 Blood			40 2 6 1 1	a) 20-60 ug/100 ml b) 20-60 ug/100 ml c) 60-20 ug/100 ml d) 72-52 ug/100 ml	a) 30 ug/100 ml b) 42 ug/100 ml c) Not applicable d) Not applicable	a) No symptoms of Pb poisoning b) Biochemical, toxicological studies of 20 subjects c) Before and after chelation therapy. Exposure unknown. Antipyrine half-life decreased from 11.5 to 6.0 hr d) Before and after chelation therapy. Exposure unknown. Antipyrine half-life decreased from 16.0 to 9.6 hr Antipyrine half-life used as index of chelation capacity which, for a) and b), was twice that of unexposed adults 1-7.5 yr olds CHILDREN: LEAD POISONING: NEPHALS: BLOOD: LEAD: NEPHALS: FINDINGS: LEAD: METABOLISM	Alverson, A.P. Spiegel, S. Sassa, S. Kaplan, A. 1975 Clinical Pharmacology and Therapeutics 17(2):179-183

PROPERTY PAGE

Lead
7829-92-1EE
REV 207.2, WP 327.2 C, SP 1740 C, VP 1.77 mg mg at 1000 C, 1 mg mg at 970 C, 10 mg mg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6484 Blood			1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 63 ug/dl b) 35 ug/dl c) 18 ug/dl d) 42 ug/dl	a) Pretreatment b) 2 wk after start of chelation therapy c) 5 wk after start of chelation therapy d) 2 wk after chelation therapy ended 20 hr/wk exposure to Pb at pistol range 44 yr old Frequent premature ventricular contractions, hypertension, and hypertension. At 20 hr/wk exposure to Pb with transfusion therapy for Pb poisoning with encephalopathy ADULTS: HEART DISEASES; LEAD POISONING; METAL POISONING; BLOOD; LEAD; METALS	Marcus, S.B. 1981 Veterinary and Human Toxicology 23(6):424-425
6485 Blood		AMS		a) 11.5-16.1 ug/dl b) 6.8-17.8 ug/dl c) 10.7-16.6 ug/dl d) Not given e) Not given f) Not given	a) 14.7 ug/dl b) 10 ug/dl c) 13.3 ug/dl d) 3.5 ug/dl e) 9 ug/dl f) 3.5 ug/dl	a) Americans, start of expedition b) Americans, at end of expedition c) Americans, 5 yr later d) Malaysian men e) Malaysian women f) Malaysian children a)-c) same subjects, d)-f) 103 altogether Nepalese adults and 3-14 yr old children. Adult Americans on expedition in Nepal. LEAD; METALS; BIOACCUMULATION; METAL ADULTS; BLOOD; ASIA; ADULTS; CHILDREN	Pisacelli, S. Corash, L. Corash, R.B. Seaman, C. Rushak, P. Glover, S. Fidgett, S. Science 210(4474):1135-1137
6486 Blood			1	Not applicable	53 $\pm$ 10 ug/100 g	Prospective blood donor Young, healthy subject employed in Pt-union, industry ADULTS; BLOOD; LEAD; METALS; INDUSTRIES; OCCUPATIONAL HAZARDS	McGraw, T.E. 1981 Journal of the American Medical Association 246(22):2625
6487 Blood	Inhalation	AMS	65	17-78 ug/100 ml	36 $\pm$ 13 ug/100 ml	Correlation with increased erythrocyte levels, 58-557 ug/100 erythrocytes, and with decreased delta-aminolevulinic acid dehydratase activity, 1057-97 nmol erythrocytes per milligram/hour (erythrocytes) 3-14 yr exposure to dust containing Pb, estimated Pb intake range estimated from graph Polyvinyl chloride factory workers, Japan INDUSTRIAL CHEMICALS; JAPAN; ADULTS; BLOOD; INDUSTRIAL MEDICINE; LEAD; METALS; PHOTOGRAPHY; PEST; EXPOSURE; INDUSTRIAL ADULTS; OCCUPATIONAL HAZARDS	Yoshitani, K. Ogata, I. Ogata, S. 1975 Archives of Environmental Health 30(4):548-550

(NEXT PAGE)

Lead
7439-92-1ATW 207.2, BP 327.6 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6448 Blood	Ingestion Inhalation	Colorimetry	16	a) 18-40 ug/100g b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable h) Not applicable i) Not applicable j) Not applicable k) Not applicable l) Not applicable m) Not applicable	a) 25 ug/100g b) 24 ug/100g c) 42 ug/100g d) 56 ug/100g e) 44 ug/100g f) 10 ug/100g g) 30 ug/100g h) 32 ug/100g i) 28 ug/100g j) 32 ug/100g k) 32 ug/100g l) 31 ug/100g m) 34 ug/100g	a) 16 controls, 31-602 days (mean 270 days), 1 subject b) Dietary supplement 300 ug/d for 420 days, 1 subject c) Dietary supplement 1000 ug/d for 1095 days, 1 subject d) Dietary supplement 2000 ug/d for 420 days, 1 subject e) Dietary supplement 3000 ug/d for 113 days, 1 subject f) Postexposure (63 days), subject b) g) Postexposure (283 days), subject b) h) Postexposure (992 days), subject c) i) Postexposure (992 days), subject d) j) Postexposure (166 days), subject e) k) Mean 24-hr inhalation 1.9 ug/cm ³ , 112 days, 1 subject, (chamber level C-010) ug/cm ³ , 112 days, 1 subject, mean dietary intake 191 ug/d l) Mean 24-hr inhalation 7.0 ug/cm ³ , 112 days, 1 subject, (chamber level C-019) ug/cm ³ , 10-5 hr/d, 6 d/week, mean dietary intake 248 ug/d m) Mean 24-hr inhalation 19.3 ug/cm ³ , 112 days, 1 subject, (chamber level C-157) ug/cm ³ , 6 hr/d, 3-5 d/week, mean dietary intake 260 ug/d n) Mean 24-hr inhalation 30.1 ug/cm ³ , 112 days, 1 subject, (chamber level C-152) ug/cm ³ , 7 hr/d, 5 d/week, mean dietary intake 71 ug/d o) Exposure periods (j, k, l) not long enough to reach equilibrium p) Parameter response due to chamber exposure not apparent at exposure rates <75 ug/cm ³ q) Dietary supplementation, Pt acetate solution, one-third with each seal r) Caucasians, 5 Blacks, age 22-55 yr (mean 38 yr) CRTO: ADULTS; BLOOD: LONGS; URINE: LEAD; BIOACCUMULATION: DIETS; INHALATION: PARTICULATES; METALS	Stowe, S.B. 1981 Journal of Toxicology and Environmental Health 8:333-377
6449 Blood						Review. Data on air-Pb levels and blood-Pb levels compared with levels predicted by two kinetic models. BLOOD: REVIEW; LEAD: METALS; INHALATION	Reardon, P.B. O'Flaherty, S.J. Gartside, P.S. 1978 Food and Cosmetics Toxicology 16:631-638
6450 Blood						Review. Because accepted threshold levels are thought to be too high, new upper limits for adults and children are proposed. LEAD: METALS; REVIEW: BLOOD	Waldron, H.A. 1978 Archives of Environmental Health 29:271-273

(NEXT PAGE)

7059-92-1
Pub 1

165 267.2, BP 327.4 C, MP 1740 C, η 1.77 mB at 1000 C, 1 mB at 370 C, 10 mB at 1100 C (CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUBSET OF CASES	DIAGNOSIS	MEAN	GENERAL INFORMATION	REFERENCE
6453 Blood		ELIS	9	a) Not given b) Not given	a) 9.73 $\pm$ 0.2 b) 9.73 $\pm$ 0.2 c) 9.73 $\pm$ 0.2 d) 9.73 $\pm$ 0.2 e) 9.73 $\pm$ 0.2 f) 9.73 $\pm$ 0.2 g) 9.73 $\pm$ 0.2 h) 9.73 $\pm$ 0.2 i) 9.73 $\pm$ 0.2 j) 9.73 $\pm$ 0.2 k) 9.73 $\pm$ 0.2 l) 9.73 $\pm$ 0.2 m) 9.73 $\pm$ 0.2 n) 9.73 $\pm$ 0.2 o) 9.73 $\pm$ 0.2 p) 9.73 $\pm$ 0.2 q) 9.73 $\pm$ 0.2 r) 9.73 $\pm$ 0.2 s) 9.73 $\pm$ 0.2 t) 9.73 $\pm$ 0.2 u) 9.73 $\pm$ 0.2 v) 9.73 $\pm$ 0.2 w) 9.73 $\pm$ 0.2 x) 9.73 $\pm$ 0.2 y) 9.73 $\pm$ 0.2 z) 9.73 $\pm$ 0.2	a) Levels before treatment with penicillins (PCN) for 1 wk (3 patients) or 2 wk (6 patients) b) Levels after treatment with PCN for 1 wk (3 patients) or 2 wk (6 patients) Adults employed in Pb recycling at battery cell factory. Exposures 2-108 months. Saternia	Tosini-Charles, M.A., González-Muñoz, J.D., Solís-Balboa, G., 1981 Archives of Environmental Health 36(1):60-63
6452 Blood	Ingestion		96	a) 0.53-1.06 μ mol/l b) 0.61-1.33 μ mol/l c) 0.81-1.49 μ mol/l d) 0.74-1.91 μ mol/l	a) Not given b) Not given c) Not given d) Not given	a) Softwater area b) Softwater area, North Wales c) Softwater area, South Wales d) Softwater area, North Wales Range of means Drinking water levels less than 0.05-0.30 μ g/l Volunteers, United Kingdom UNITED KINGDOM: ADULTS: ELCO; LEAD: DRINKING WATER; HEALTH HAZARDS: WATER POLLUTION; SCOTLAND: WALES	Thomas, R.P., Blood, P.C., Teatall, C., Norton, R., 1981 Lancet 1(8228):1047-1048
6453 Blood		ELIS	635 deliveries	a) 2-23 μ g/dl b) 1-25 μ g/dl c) 1-25 μ g/dl d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given	a) 9.73 $\pm$ 0.2 b) 9.73 $\pm$ 0.2 c) 9.73 $\pm$ 0.2 d) 9.73 $\pm$ 0.2 e) 9.73 $\pm$ 0.2 f) 9.73 $\pm$ 0.2 g) 9.73 $\pm$ 0.2 h) 9.73 $\pm$ 0.2 i) 9.73 $\pm$ 0.2 j) 9.73 $\pm$ 0.2 k) 9.73 $\pm$ 0.2 l) 9.73 $\pm$ 0.2 m) 9.73 $\pm$ 0.2 n) 9.73 $\pm$ 0.2 o) 9.73 $\pm$ 0.2 p) 9.73 $\pm$ 0.2 q) 9.73 $\pm$ 0.2 r) 9.73 $\pm$ 0.2 s) 9.73 $\pm$ 0.2 t) 9.73 $\pm$ 0.2 u) 9.73 $\pm$ 0.2 v) 9.73 $\pm$ 0.2 w) 9.73 $\pm$ 0.2 x) 9.73 $\pm$ 0.2 y) 9.73 $\pm$ 0.2 z) 9.73 $\pm$ 0.2	a) Cord blood, 154 cases b) Mothers, group a), 24 hr postpartum c) Mothers, group a), 24 hr postpartum d) Placental rupture of membranes, 56 cases e) 579 controls for d) f) Placental delivery, 74 cases g) 561 controls h) Preclampsia, 32 cases i) 403 controls for h) j) Neonatal staining, 123 cases k) 579 controls for j) l) Cord blood m) Cord blood n) Cord blood o) Cord blood p) Cord blood q) Cord blood r) Cord blood s) Cord blood t) Cord blood u) Cord blood v) Cord blood w) Cord blood x) Cord blood y) Cord blood z) Cord blood	Agell, R.P., Lavery, J.P., 1982 British Journal of Obstetrics and Gynaecology 162(1):40-46

(UNIT PAGE)

Lead

835-97-1

REV 207.2, BP 327.4 C, BP 1740 C, VP 1.77 mg Hg at 1000 C, 1 mg Hg at 970 C, 10 mg Hg at 1160 C (CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	BIOMONITORING	RESULTS	GENERAL INFORMATION	REFERENCE
6454 Blood		Colorimetry AAS	a) 472 b) 472	a) 8-50 ug/dl b) 6-40 ug/dl c) Not given	a) 20.2 $\pm$ 0.8 - 1.48 ug/dl b) 15.2 $\pm$ 0.8 - 1.40 ug/dl c) 16.6 $\pm$ 0.8 - 1.34 ug/dl Geometric mean	a) 1967-69, colorimetric analysis b) 1978-80, AAS analysis c) 1978-80 data, as if determined by colorimetric analysis Estimated dietary intake 37g ug/day (1971) and 46 ug/day (1980) d) significantly higher than c) Ranges estimated from graph Preemployment evaluations, identical age groups, United Kingdom UNITED KINGDOM: BLOOD; INDUSTRIAL MEDICINE; LEAD; METALS; DICUMULATION; FOOD; WHEAT ADDITIVES; POPULATION EXPOSURE	Osley, G.E. International Archives of Occupational and Environmental Health 45:381-383
6455 Blood		AAS	377	a) Not given b) Not given c) Not given	a) 24.8 $\pm$ 0.8 - 1.75 ug/dl b) 27.7 $\pm$ 0.8 - 1.35 ug/dl c) 27.0 $\pm$ 0.8 - 1.29 ug/dl Geometric mean	a) Children in owner occupied housing b) Children in private rental housing c) Children in public rental housing Housing occupied for at least 1 yr a)-c) no significant difference 11-7% of variation in blood-Pb level could be explained by socioeconomic status and measured environmental variables (soil, air, dust, and interior Pb int., house dust) 1-72 mo old children, CT, 1974-1977 CONNECTICUT: CHILDREN; BLOOD; LEAD; METALS; DRINKING WATER; DUST; PAINTS; POPULATION EXPOSURE; SOILS; URBAN AREAS	Stack, A.D. Qash, R.P. Molise, J.F. Belouise, R.E. 1982 Environmental Research 27:372-383
6456 Blood		AAS	a) 22 b) 21 c) 36 d) 44 e) 29	a) 9.7-40.5 ug/100 ml b) 15.5-43.3 ug/100 ml c) 7.6-24.8 ug/100 ml d) 5.3-17.7 ug/100 ml e) 5.9-21.4 ug/100 ml	a) 26.1 $\pm$ 0.8 - 10.0 ug/100 ml b) 25.7 $\pm$ 0.8 - 8.4 ug/100 ml c) 16.0 $\pm$ 0.8 - 3.8 ug/100 ml d) 10.7 $\pm$ 0.8 - 2.8 ug/100 ml e) 12.7 $\pm$ 0.8 - 3.1 ug/100 ml	a) School 1, (1) km from smelter b) School 2, (1) km from smelter c) School 3, 2.5 km from smelter d) School 4, urban e) School 5, urban a) and b) significantly higher than c) c) and d) significantly lower than e) e) significantly higher than d) No evidence of neurophysiological dysfunction 11 yr olds living near ore smelter, rural and urban controls matched for age and socioeconomic status CHILDREN; BLOOD; COMPARATIVE EVALUATIONS; LEAD; METALS; INDUSTRIAL AREAS; INDUSTRIAL ATMOSPHERES; INDUSTRIAL EMISSIONS; INDUSTRIAL PLANTS; INDUSTRIAL POLLUTION; POPULATION EXPOSURE; RURAL AREAS; SMELTERS; URBAN AREAS	Seritt, J.B. Henders, R. Hend, G. Kell, R.A. Scheel, J.F. Lauwerys, R. Broun, P. Clayton-Thorne, P. Schoff, G. Vanderstede, A. 1980 Clinical Toxicology 18(11):1259-1267

(SEE PAGE)

Lead
7439-92-1

MP 327.4 C, MP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 973 C, 10 mm Hg at 1163 C
 MP 207.2, MP 327.4 C, MP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 973 C, 10 mm Hg at 1163 C
 (CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6457 Blood	Ingestion Inhalation	MS	1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable	a) 72 ug/dl b) 127 ug/dl c) 74 ug/dl d) 84 ug/dl e) 103 ug/dl f) 27 ug/dl	a) March, 1979 b) 8 wk after a) c) 10 days after chelation therapy (1 g CaNa2-EDTA 25/day for 5 days) d) 3 wk after c) (patient had not returned to work) June 1979, prior to 2nd course of chelation therapy e) September 1979 f) 6 wk occupational exposure to powdered pigment containing 18 Pb. g) 3 yr old art conservator, NY Fatigue, dizziness, muscular pain in extremities, weakness of legs, irritability, abdominal cramps, dysmotility, abnormal cramps, irritability, severe anemia, splenomegaly, and hemophilic stippling of red blood cells NEW YORK: ADULTS: CASE HISTORIES; LEAD POISONING; METAL POISONING; BLOOD; URINE; DRUG THERAPY; LEAD; METALS; TOXIC; HEALTH HAZARDS; TOXIC; OCCUPATIONAL HAZARDS; SYMPTOMS Fischbein, A. Wallace, J. Anderson, R.E. Sasse, S. Rohr, S. Rohr, A. R. Kaplan, A. 1982 Journal of the American Medical Association 247(14):2007-2009	Fischbein, A. Wallace, J. Anderson, R.E. Sasse, S. Rohr, S. Rohr, A. R. Kaplan, A. 1982 Journal of the American Medical Association 247(14):2007-2009
6458 Blood			a) 72 b) 121 c) 73 d) 56	a) Not given b) Not given c) Not given d) Not given	a) 17.75 *or- 5.73 ug/100 ml b) 16.49 *or- 5.74 ug/100 ml c) 13.36 *or- 4.66 ug/100 ml d) 13.28 *or- 6.62 ug/100 ml	a) Crown Street School b) Bourke Street School c) Sacred Heart School d) Backington School e) 7 subjects with levels of 30 ug/100 ml or more Children, grades 2-6, Sydney, Australia AUSTRALIA: CHILDREN; BLOOD; LEAD; METALS; POPULATION EXPOSURE Molan, R.R. 1982 Medical Journal of Australia 1(2):57	Molan, R.R. 1982 Medical Journal of Australia 1(2):57
6459 Blood		MS	296	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given l) Not given	a) 29.52 *or- 7.76 ug/100 ml b) 21.74 *or- 5.63 ug/100 ml c) 21.00 *or- 7.10 ug/100 ml d) 21.60 *or- 5.19 ug/100 ml e) 26.99 *or- 5.56 ug/100 ml f) 20.99 *or- 6.00 ug/100 ml g) 28.60 *or- 8.49 ug/100 ml h) 22.07 *or- 8.59 ug/100 ml i) 29.42 *or- 7.67 ug/100 ml j) 21.45 *or- 5.27 ug/100 ml k) 29.07 *or- 6.59 ug/100 ml l) 22.13 *or- 6.50 ug/100 ml	a) 228 traffic policemen (exposed) b) 48 office duty policemen (controls) c) 27 exposed, <31 yr old d) 27 exposed, <31 yr old e) 36 exposed, 26-30 yr old f) 10 controls, 26-30 yr old g) 24 exposed, >36 yr old h) 8 controls, >36 yr old i) 85 exposed, employed <4 yr j) 26 controls, employed <4 yr k) 59 exposed, employed >4 yr l) 18 controls, employed >4 yr m) Exposed group levels significantly greater than controls n) No correlation between blood Pb and age or length of employment Iran IRAN: ADULTS; BLOOD; LEAD; METALS; ANTHROPOMETRIC; AIR POLLUTION; FUEL ADDITIONS; FURNACE; GASOLINE; OCCUPATIONAL HAZARDS; URBAN AREAS Farass, B. Sakari, C.R. Nadiri, A. 1982 American Industrial Hygiene Association Journal 43:373-376	Farass, B. Sakari, C.R. Nadiri, A. 1982 American Industrial Hygiene Association Journal 43:373-376

(SEE PAGE)

7039-92-1

(Continued)

---(NEXT PAGE)---

207.2. δ 227.8 C, δ 170 C, ν 1.77 μ at 100 C, 1 μ at 973 C, 10 μ at 1160 C (CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	SAMPLE	MEAN	GENERAL INFORMATION	REFERENCE
6462 Blood		MS		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given l) Not given m) Not given n) Not given o) Not given p) Not given q) Not given r) Not given s) Not given t) Not given u) Not given	a) 5.9 ug/dl b) 7.5 ug/dl c) 6.7 ug/dl d) 10.0 ug/dl e) 10.0 ug/dl f) 37.4 ug/dl g) 45.1 ug/dl h) 50.9 ug/dl i) 27.6 ug/dl j) 44.6 ug/dl k) 46.3 ug/dl l) 48.8 ug/dl m) 45.9 ug/dl n) 35.9 ug/dl o) 25.0 ug/dl p) 54.7 ug/dl q) 52.3 ug/dl r) 45.9 ug/dl	a) Age 0-3 yr, 37 cases b) Age 3-5 yr, 19 cases c) Age 5-10 yr, 19 cases d) Age 10-15 yr, 6 cases e) Age >15 yr, 1 case f) Age 0-3 yr, 57 cases g) Age 3-5 yr, 11 cases h) Age 5-10 yr, 20 cases i) Age 10-15 yr, 10 cases j) Age >15 yr, 9 cases k) Age 0-3 yr, 2 cases l) Age 3-5 yr, 57 cases m) Age 5-10 yr, 57 cases n) Age >15 yr, 56 cases o) ug/dl, females 32.4 ug/dl p) 63 of 99 children attending day care center in area with highest air Pb level q) 4 of 25 children attending day care center in area near smelter but west of prevailing wind currents r) 4 workers in smelter s) 4 workers in battery plant, 1978 t) Mean age 32.2 yr. Mean erythrocyte protophyrin (EP) 11.1 ug/g hemoglobin (Hb) u) 65 workers as in c), 1980. Mean age 35.9 yr. Mean EP 15.5 ug/g Hb. 7 cases blood-Pb (B-Pb) >100 ug/dl v) 3 children (<15 yr old), parents employed in smelter, refinery, and battery plant, 1980 w) 24 children (<15 yr old), parents employed as in v), living in area city, 1980 x) 73 nonexposed controls. Mean EP 3.9-6.9 ug/g Hb. Highest B-Pb, 19 ug/dl y) 31 of 321 exposed area residents, 1978, with EP >8 ug/g Hb. Mean EP 12.0-8.1 ug/g Hb. Mean air Pb level, 14.3 ug/cu m. 7 cases B-Pb, 73-88 ug/dl z) 1) 379 exposed area residents, 1980. Mean EP 165.5 ug/g Hb. Mean air Pb level 23.4 ug/cu m aa) 1) Beta encephalogram workers and families in lead-related industries. bb) Residents of Kosovska Nitrova, site of largest lead smelters in Europe, and Pristina, 40 km south of smelter (no Pb emissions), Yugoslavia cc) Children with extremely high blood-Pb, neurological disorders, clinical convulsions, learning difficulties, anemia, and/or inamnia. Workers' exposure consistent with poisoning. dd) YUGOSLAVIA: ADOLESCENTS; ADULTS; CHILDREN; LEAD POISONING; METAL POISONING; BLOOD; LEAD; METALS; PROTOPORPHYRIN; AIR POLLUTION; BIOACCUMULATION; DUST; HEALTH HAZARDS; INDUSTRIAL; LEAD; METALS; INDUSTRIAL PLANTS; INDUSTRIAL POLLUTION; INDUSTRIES; ISOLATION; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE; SMELTERS; URBAN AREAS	Pepovec, D. Griziano, J. Seaton, C. Rail, B. Colakovic, R. Pepovec, R. Ossadi, I. Nashin, R. Regrucic, R. Kosovic, Z. 1982 Archives of Environmental Health 37(1):19-23

— **1999** —

Lead
7439-92-1

ATN 207.2, BP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	REAR	GENERAL INFORMATION	REFERENCE
6463 Blood, cells	Ingestion		7	90-248 ug/100 ml	Not given	6-8 hr exposure to drinking water containing 8.8 ug/l of Pb. 19-36 yr old male employees of mining company, 17 yr old female cook and 3-5 yr old daughter, Australia (26) 1038-1041 Peripheral neuropathy, sweating, lethargy, abdominal pain, hypothermia, anorexia, anesmia. AUSTRALIA: ADULTS; CHILDREN; METAL POISONING; BLOOD; LEAD; METALS; DRINKING WATER; GROUND WATER POLLUTION; OCCUPATIONAL HAZARDS	Stack, S.A. 1974 Medical Journal of Australia (26) 1038-1041
6464 Blood, cells			a) 1 b) 1	a) 176-76 ug/100 ml b) 73-96 ug/100 ml	a) Not applicable b) Not applicable	a) 2 and 221 hr after 100 mg-Pre-dose level 33 ug/100 ml b) 1 and 2 hr after 100 mg-Plasma measurement 82 ug/100 ml at 48 hr-Pre-dose level 37 ug/100 ml BLOOD; BLOOD PLASMA; COMPARATIVE EVALUATIONS; MEASUREMENT METHODS; LEAD; METALS; NEUTROPHILS	Jessive, P.E. 1981 British Journal of Industrial Medicine 18:203-217
6465 Blood, cells		AS	a) 8 b) 14 c) 5 d) 5	a) 29-60 ug X b) 102-178 ug X c) 168-208 ug X d) 102-120 ug X	a) 42 *or- a ug X b) 142 *or- 6 ug X c) 185 *or- 7 ug X d) 112 *or- 3 ug X S.E.	a) Soreal controls b) Pb-exposed workers, no toxicity c) Pb-exposed workers with toxicity at high blood-Pb levels d) Pb-exposed workers with toxicity at low blood-Pb levels Pb sweating plant workers and unemployed industrial workers ADULTS; INDUSTRIAL DISEASES; LEAD POISONING; OCCUPATIONAL DISEASES; BLOOD; RHYTHMOTICS; INDUSTRIAL MEDICINE; LEAD; INDUSTRIAL PLANTS; SHELTERS	Recherche, S.R.V. Calver, R.D. Gulick, R.C. 1981 Journal of Toxicology and Environmental Health 7:561-568
6466 Blood, plasma		AS	a) 31 b) 48 c) 56 d) 17 e) 13	a) 1-7 ug/100 ml b) 1-7 ug/100 ml c) 1-6 ug/100 ml d) 1-6 ug/100 ml e) 1-6 ug/100 ml	a) 3.10 *or- 0.31 ug/100 ml b) 3.10 *or- 0.29 ug/100 ml c) 3.10 *or- 0.26 ug/100 ml d) 3.10 *or- 0.28 ug/100 ml e) 3.0 *or- 0.31 ug/100 ml	a) Soreal controls (whole blood Pb 20-39 ug/100 ml) b) Probable Pb exposure (whole blood Pb 40-100 ug/100 ml) c) Soreal Pb (whole blood Pb 60-136 ug/100 ml) d) Children with sickle-cell disease (whole blood Pb 18-136 ug/100 ml) e) Neonates (whole blood Pb 12-34 ug/100 ml) Children from New York City NEW YORK; CHILDREN; METAL POISONING; BLOOD PLASMA; LEAD; METALS; POPULATION EXPOSURE; URBAN AREAS	Rome, J.P. Serafini-Salvador, C. Trinidad, E.E. 1978 Journal of Pediatrics 94(1):45-48

(NEXT PAGE)

Lead
74.39-92-1
Pb
See 207.2, MP 327.8 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

GENERAL INFORMATION							
TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	REFERENCE	
6467 Blood, plasma	Ingestion		a) 1 b) 18 c) 12 d) 20 e) 27 f) 22 g) 6	a) 8.50-0.69 ug/100 ml b) 1.69-0.66 ug/100 ml c) 0.14-0.57 ug/100 ml d) 0.17-0.88 ug/100 ml e) 0.26-1.16 ug/100 ml f) 0.38-1.48 ug/100 ml g) 0.48-3.96 ug/100 ml h) 1.64-3.42 ug/100 ml	a) Not applicable b) Not applicable c) 0.27 $\pm$ 0.11 ug/100 ml d) 0.48 $\pm$ 0.22 ug/100 ml e) 0.69 $\pm$ 0.25 ug/100 ml f) 0.99 $\pm$ 0.40 ug/100 ml g) 1.43 $\pm$ 0.77 ug/100 ml h) 2.64 $\pm$ 0.78 ug/100 ml	a) 2 hr and 221 hr after 100 ug. Pre-dose level 0.57 ug/100 ml b) 2 and 48 hr after 100 ug. 1.59 ug/100 ml at 1.0 hr. Pre-dose level 0.35 ug/100 ml c) Erythrocyte Pb <39 ug/100 ml d) Erythrocyte Pb 40-79 ug/100 ml e) Erythrocyte Pb 80-119 ug/100 ml f) Erythrocyte Pb 120-159 ug/100 ml g) Erythrocyte Pb 160-179 ug/100 ml h) Erythrocyte Pb >200 ug/100 ml Combined data in c) for Pb workers subjects FLOOD: BLOOD PLASMA: COMPARATIVE EVALUATIONS: RESPIRATORY METHODS; LEAD: METALS; ERYTHROCYTES	Desilver, P.E. 1981 British Journal of Industrial Medicine 38:209-217
6468 Blood, whole			a) 1 b) 1	a) 78-17 ug/100 ml b) 16-46 ug/100 ml	a) Not applicable b) Not applicable	Desilver, P.E. 1981 British Journal of Industrial Medicine 38:209-217	
6469 Body						Stephens, J. 1981 International Journal of Environmental Studies 17: 73-83	
6470 Bone		ES	5	Not given	6.0 $\pm$ 0.3-3.6 ppm dry wt	Yoshida, S. 1981 Archives of Environmental Health 36 (4): 155-165	

(NEXT PAGE)

Lead

74-59-92-1

RP 207.2, BP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6471 Bone		MA	a) 7 b) 5	a) 6-82 ppm b) 2.4-4.9 ppm	a) 15 ppm b) 2.85 ppm Medians	a) Exposed group b) Controls Autopsies, fear 85-75 yr old factory workers, Sweden. Controls from unpolluted areas ARTISONS: ARSENIC; CADMIUM; COPPER; LEAD; MERCURY; SILENIUM; SILVER; TIN; ZINC: BIOACCUMULATION; INDUSTRIAL ATMOSPHERES; INDUSTRIAL PLANTS; POPULATION EXPOSURE; SMELTERS; FURNACE; COMPARATIVE EXPOSURES; SMELTERS; ARTISANS; OCCUPATIONAL HEALTH; METALS	Liedh, B. Bresse, D. G. Wester, P.-O. 1980 Science of the Total Environment 16:109-116
6472 Bone		MS	a) 1 b) 1 c) 1 d) 1 e) 1 f) 1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable	a) 0.71 ppm b) 1.4 ppm c) 0.16 ppm d) 0.11 ppm e) 2.7 ppm f) 1.1 ppm Dry wt	a) Handible, Naica Negra site, recently exposed, pre-ceramic, pre-metallurgical, date 4500-3000 yr before present (BP) b) Fear, Ganape Ganape, specimens exposed on surface of metallurgical, date 3000-2500 yr BP c) Handible, Naica Galliano site, metallurgical, date 2000-1400 yr BP d) Handible, another person, site c) e) Handible, another person, site c) f) Vertebral, assay of healthy female Egyptian, Ptolemaic period, 2200 yr BP Ratio atomic Pb to atomic Ca in bones of 31 persons buried in 1000 yr was 2100-3500 (18-8) in bones of present-day residents of England and the United States. Specimens from Vica Valley, Peru and Egypt EGYPT: PERU: UNITED KINGDOM: UNITED STATES: FRANCE: GERMANY: DENMARK: CANADA: LEAD: BIOACCUMULATION	Ericson, J. E. Shirahata, H. Patterson, C. C. 1979 England Journal of Medicine 300(17):946-951
6473 Breath	Inhalation	Colorimetry	a) 1 b) 1 c) 1 d) 1	a) 39.2-52.0% b) 38.3-73.8% c) 21.8-39.0% d) 46.0-47.0%	a) 44.4 % b) 47.0 % c) 31.8 % d) 46.5 %	a) Chamber level 0.010 mg/cu m, 9 measurements b) Chamber level 0.019 mg/cu m, 12 measurements c) Chamber level 0.157 mg/cu m, 15 measurements d) Chamber level 0.288 mg/cu m, 2 measurements y of dose retained (amount inhaled less amount exhaled, divided by amount inhaled, times 100%) Particle size 50% <0.05 um, 98% <0.17 um generated by burning tetraethyl lead mixed with propane retained gas to produce aerosolized particles 11 Caucasians, 5 Blacks. Age 22-55 yr (mean 34 yr) CRIO: ADULTS: BLOOD: LUNGS: URINE; LEAD: BIOACCUMULATION; DIETS; SMELLING; PARTICULATES; METALS	Gross, S. B. 1981 Journal of Toxicology and Environmental Health 8:333-377

(NEXT PAGE)

1

[illegible]

INDEX PAGE

Lead
7639-92-1
Pb

At 207.2, BP 327.2 C, BP 1760 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6476 Intestine		ES	10	Not given	1.6 $\pm$ 0.47 ppm dry wt	Mortal tissue autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYROID; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION: HEALING HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINCOP: 38. ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6477 Kidney		ES	a) 6 b) 2 c) 3 d) 1 e) 1	a) Not given b) 3.8-2.8 ppm c) 1.8-4.0 ppm d) Not applicable e) Not applicable Dry wt	a) 1.3 $\pm$ 0.47-0.95 ppm b) 1.6 ppm c) 2.6 ppm d) 1.6 ppm e) 0.35 ppm Dry wt	Mortal healthy men Chromate refining workers Chromate refining workers Airplane painter Stone sealer Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYROID; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION: HEALING HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINCOP: 38. ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6476 Liver		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) 2.4-4.0 ppm c) 2.6-12 ppm d) Not applicable e) Not applicable Dry wt	a) 2.0 $\pm$ 0.47-1.2 ppm b) 3.2 ppm c) 8.2 ppm d) 7.3 ppm e) 1.5 ppm Dry wt	Mortal healthy men Chromate refining workers Chromate refining workers Airplane painter Stone sealer Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYROID; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION: HEALING HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINCOP: 38. ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

Lead
78-9-92-1

PB

At 207.2, BP 327.6 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6879 Liver		ASV LSV	30	0.4-2.3 ug/3 Not at	Not given	Category 1 (first priority element) as proposed by International Workshop on Monitoring Environmental Materials and Specimen Banking Autopsies, Baltimore, MD, Minneapolis, MN, and Seattle, WA MAYLAN MINNESOTA; WASHINGTON; AUTOPSIES: LIVER; MEASUREMENT METHODS: ALUMINUM; ANTIMONY; ARSENIC; BARIUM; CADMIUM; CHROMIUM; COBALT; COPPER; FLUORINE; IRON; LEAD; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; NIOBIUM; RUTHENIUM; SILVER; STRONTIUM; TUNGSTEN; VANADIUM; ZINC; POPULATION EXPOSURE	Harrison, S.H. Zessler, R. Wise, S.A. 1981 EPA 600/S1-81-025, 6 pp.
6880 lung		ES	a) 12 b) 2 c) 3 d) 1 e) 1	a) Not given b) 4.0-4.2 ppm c) 2.6-8.7 ppm d) Not applicable e) Not applicable Dry wt	a) 1.3 to 0.66 ppm b) 4.1 ppm c) 5.8 ppm d) 6.4 ppm e) 0.95 ppm Dry wt	a) Normal healthy men b) Chronic plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CANNON; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; NIOBIUM; RUTHENIUM; STRONTIUM; SILICON; SILVER; SODIUM; TUNGSTEN; VANADIUM; ZINC; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TUNGSTEN; ZINC; ELEMENTS	Tanaka, H. 1981 Archives of Environmental Health 36(4):155-165
6881 Lymph node		ES	a) 3 b) 1 c) 3 d) 1 e) 1	a) Not given b) Not applicable c) 4.1-5.8 ppm d) Not applicable e) Not applicable Dry wt	a) 4.0 to 0.67 ppm b) 5.5 ppm c) 5.2 ppm d) 6.7 ppm e) 6.7 ppm Dry wt	a) Normal healthy men b) Chronic plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CANNON; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; NIOBIUM; RUTHENIUM; STRONTIUM; SILICON; SILVER; SODIUM; TUNGSTEN; VANADIUM; ZINC; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TUNGSTEN; ZINC; ELEMENTS	Tanaka, H. 1981 Archives of Environmental Health 36(4):155-165

(SEE PAGE)

Lead
7-63-92-1

207.2, 40 327.4 C, 40 1780 C, 40 1.77 mg Hg at 1000 C, 1 mg Hg at 973 C, 10 mg Hg at 1100 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SOURCE OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
4882 Pancreas		ES	5	Not given	0.76 $\pm$ 0.19 ppa dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS: ADRENAL; BONES: HEART; INTESTINES: KIDNEYS; LIVER: LUNGS; LYMPH NODES: PANCREAS; SPLEEN; STOMACH: THYROID GLANDS; TRACHEA; ALUMINUM: BARIUM: CADMIUM: CALCIUM; CHROMIUM: COBALT: COPPER: IRON: LEAD; MANGANESE: NICKEL: PHOSPHORUS; POLYBROMINE: SILICON: SODIUM; STRONTIUM: TITANIUM: VANADIUM; ZINC: BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS; TOXICITY: ZINC: ELEMENTS	Tanaka, H. 1981 Archives of Environmental Health 36 (4): 155-165
4883 Spleen		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) 2.5-4.5 ppa c) 3.1-6.5 ppa d) Not applicable e) Not applicable dry wt	a) 1.9 $\pm$ 0.1-1.2 ppa b) 3.5 ppa c) 4.6 ppa d) 5.5 ppa e) 1.1 ppa dry wt	a) Normal healthy men b) Chronic plant workers c) Chronic plant workers d) Atomic plant e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS: ADRENAL; BONES: HEART; INTESTINES: KIDNEYS; LIVER: LUNGS; LYMPH NODES: PANCREAS; SPLEEN; STOMACH: THYROID GLANDS; TRACHEA; ALUMINUM: BARIUM: CADMIUM: CALCIUM; CHROMIUM: COBALT: COPPER: IRON: LEAD; MANGANESE: NICKEL: PHOSPHORUS; POLYBROMINE: SILICON: SODIUM; STRONTIUM: TITANIUM: VANADIUM; ZINC: BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS; TOXICITY: ZINC: ELEMENTS	Tanaka, H. 1981 Archives of Environmental Health 36 (4): 155-165
4884 SR: BACCH		ES	10	Not given	1.6 $\pm$ 0.6 ppa dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS: ADRENAL; BONES: HEART; INTESTINES: KIDNEYS; LIVER: LUNGS; LYMPH NODES: PANCREAS; SPLEEN; STOMACH: THYROID GLANDS; TRACHEA; ALUMINUM: BARIUM: CADMIUM: CALCIUM; CHROMIUM: COBALT: COPPER: IRON: LEAD; MANGANESE: NICKEL: PHOSPHORUS; POLYBROMINE: SILICON: SODIUM; STRONTIUM: TITANIUM: VANADIUM; ZINC: BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS; TOXICITY: ZINC: ELEMENTS	Tanaka, H. 1981 Archives of Environmental Health 36 (4): 155-165

(NEXT PAGE)

mp 327.2. η_{sp}/c 1.77 dl/g at 1000 C. 1 ml Hg at 970 C. 10 mm Hg at 1160 C (CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6485 Teeth		AAS	a) 54 b) 23 c) 38 d) 22 e) 7 f) 48 g) 38 h) 24 i) 19 j) 9 k) Not given l) 27 m) 15	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given l) Not given m) Not given	a) 17.6 ppm b) 16.6 ppm c) 10.6 ppm d) 19.9 ppm e) 5.8 ppm f) 10.1 ppm g) 8.9 ppm h) 5.1 ppm i) 11.0 ppm j) 7.9 ppm k) 10.6 ppm l) 6.2 ppm Geometric	a) Urban, Pb paint exposure, incisor b) Same as a), cuspid c) Same as a), molar d) Urban, recent public housing, bat within Pb paint area, incisor e) Same as d), molar f) Urban, no Pb paint problem, incisor g) Same as f), cuspid h) Same as f), molar i) Suburban, incisor j) Suburban, molar k) Industrial area, incisor l) Same as k), molar Deciduous teeth Children from metropolitan St. Louis, MO. MISCHOURI: CHILDREN; TEETH; LEAD; REYALS: URBAN AREAS	Lokereitz, R. 1975 Archives of Environmental Health 30:583-587
6486 Teeth		MS	a) 1 b) 1 c) 1 d) 1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 0.10 ppm b) 0.21 ppm c) 0.04 ppm d) 0.06 ppm Dry wt	a) Neaca Neaca site, recently exposed pre-grad. pre-metalurgical, date 4500-1000 yr before present (bp) b) Gusanapa cemetery, specimens exposed on surface 10 yr, post-ceramic, proto-metalurgical, date 3000-2500 yr bp c) Neaca Galliazeo site, metalurgical, date 2000-1400 yr bp d) Another person, site c) Fossil Specimens from Vire Valley, Peru EGYPT: PERU; UNITED KINGDOM; SWITZERLAND; STATES; MEXICO; THAILAND; BAHRAIN; CALCULUS; LEAD; BIOACCUMULATION	Ericsson, J.E. Shirahata, H. Patterson, C.C. 1979 See England Journal of Medicine 300(17):1946-951
6487 Thyroid gland		MS	a)	Not given	0.74 $\mu\text{g/g}$ -0.49 ppm dry wt	Total tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; AORTAL GLANDS; LOST; MOTHER; NEARBY; LIVER; KIDNEY; LIVER; LUNG; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; SELEN; POLYBROMINE; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIB; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH RESEARCH; OCCUPATIONAL EXPOSURE; TOXIC; ZINC; ZINC	Torkala, E. 1981 Archives of Environmental Health 38(4):155-165

UNIT PAGE

207.2, μ 327.8 C, μ 1740 C, μ 1.77 μ g at 1000 C, 1 μ g at 970 C, 10 μ g at 1160 C (CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	RELV	GENERAL INFORMATION	REFERENCE
6890 Tongue		ES	2	Not given	1.2 *or- 0.28 ppa dry wt	Normal tissue Autopsies Japan JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARITE; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH EFFECTS; OCCUPATIONAL EXPOSURE; TOXICOLOGY; ELEMENTS	Tsuruta, H. 1991 Archives of Environmental Health 36 (4): 155-165
6890 Trachea		ES	2	Not given	1.6 *or- 0.42 fpa dry wt	Normal tissue Autopsies Japan JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARITE; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH EFFECTS; OCCUPATIONAL EXPOSURE; TOXICOLOGY; ELEMENTS	Tsuruta, H. 1991 Archives of Environmental Health 36 (4): 155-165
6890 Urine		AAS	a) 13 b) 9 c) 8 d) 10	a) Not given b) Not given c) Not given d) Not given	a) 0.11 *or- 0.08 uoL/24 hr b) 0.15 *or- 0.08 uoL/24 hr c) 0.14 *or- 0.05 uoL/24 hr d) 0.13 *or- 0.10 uoL/24 hr	a) Normal renal function, creatinine clearance >100 mL/min b) Mild renal failure, creatinine clearance 31-40 mL/min c) Moderate renal failure, creatinine clearance 16-30 mL/min d) Severe renal failure, creatinine clearance <16 mL/min e) Creatinine clearance influenced by degree of renal failure 16 men, 22 women, aged 18-72 yr KIDNEY DISEASES; BLOOD; URINE; LEAD	Campbell, R.C., Elliot, R.L., Mercedith, P.A. 1991 Toxicology Letters 9:123-124
6891 Urine			1	a) Not applicable b) Not applicable	a) 120 ug/l b) 6,000 ug/l	a) During hospital stay b) After stimulation test with Ca EtNa 6 yr old with sickle-cell anemia, and peripheral neuropathy due to paint ingestion. Muscular weakness, tremors, bilateral wrist and foot drop CHILDREN; METAL POISONING; NEUROLOGIC MANIFESTATIONS; BLOOD; URINE; LEAD; METALS	Saks, V.B., Wittich, J.W., Journal of Pediatrics 85(3):337-340

---, PAGE

Lead
7439-92-1

ATW 207.2, BP 327.4 C, BP 174.0 C, VP 1.77 mm Hg at 97.0 C, 10 mm Hg at 316.0 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6492 Urine	Ingestion			31-472 ug/24 hr	Not given	6-8 wk exposure to drinking water with 6.4 ug/l Pb 19-36 yr old male employees of mining company, 27 yr old female cook and 3-5 yr old daughter, Australia Peripheral neuropathy, sweating, lethargy, abdominal pain, hypothermia, anorexia, nausea. AUSTRALIA: ADULTS: CHILDREN: METAL EXPOSURE: BLOOD: URINE: METALS: EXPOSURE: INGESTION: METALS: POLLUTION: OCCUPATIONAL HAZARDS	Stack, E.B., Cleland, L.G., 1981, Medical Journal of Australia 1(26):1038-1041
6493 Urine	Ingestion Inhalation	MS	5	27-38 ug/day	32.6 ug/day	Output from subjects living in roos with unfiltered air and ingesting diet containing 142-366 ug/day AIR POLLUTION: DUSTS: INHALATION: URINE: BLOOD: HAIR: NAILS: URINE: URINE	Rabinowitz, M.B., Metherell, G.W., 1977, Journal of Laboratory and Clinical Medicine 90(2):238-240
6494 Teine	Inhalation Dermal		1	a) Not applicable b) Not applicable	a) 15,300 nmol/24 hr b) 300 nmol/24 hr	a) During 3-5 yr, periodic use of paint powder containing 472,750 ug/g Pb b) 3 mo after removal of exposure source 27 yr old painter, United Kingdom General fatigue, nausea, vomiting, colicky abdominal pain, constipation, muscle pain and bilateral wrist drop "Blue line" on upper gingival margin. Heme narrow sideroblastic. Hemoglobin 7.8 g/dl, no basophilic stippling. 12/79 measurements, Hb was 12.0 g/dl and stippling was seen. CHINA: UNITED KINGDOM: ADULTS: LEAD EXPOSURE: BLOOD: URINE: METALS: COSMETICS: INHALATION: OCCUPATIONAL HAZARDS: PAINTS: METALS	Graves, J.A.G., Marton, D.B., Teert, C.B.C., 1981, Lancet 2(8256):1159-1160
6495 Urine		RAS	26	13-117 ug	50.7 $\pm$ 29 ug	6 hr excretions after chelation (25 mg/kg oral penicillamine). Mean increase was 7.6 $\pm$ 9.5 ug/dl. Subjects exposed to Pb 2-5 yr previously and 16 received chelation therapy then. Children, mean age 8.5 yr No correlation between blood pressure and Pb levels, RBP levels, or relative amount of Pb released following chelation 2-5 yr after initial exposure and therapy CHILDREN: BLOOD: URINE: LEAD: METALS: BLOOD PRESSURE	Frielaender, M.A., Brooks, C.T., 1981, Archives of Environmental Health 36(6):310-315

(NEXT PAGE)

Lead
74-29-92-1

BP 327.8 C, BP 1780 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
 BP 207.2, VP 327.8 C, BP 1780 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
 (CONTINUED)

TISSUE	EXPOSURE POWER	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6496 Urine	Ingestion Inhalation	Colorimetry	16	a) 19-45 ug/d b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable h) Not applicable i) Not applicable j) Not applicable k) Not applicable l) Not applicable m) Not applicable	a) 29 ug/d b) 22 ug/d c) 84 ug/d d) 109 ug/d e) 18 ug/d f) 60 ug/d g) 44 ug/d h) 33 ug/d i) 34 ug/d j) 39 ug/d k) 66 ug/d l) 73 ug/d	a) 16 controls, 31-402 days (mean 270d), intake 97-316 ug/d (mean 181 ug/d) b) Dietary supplement 100 ug/d for 420 days, 1 subject c) Dietary supplement 1080 ug/d for 1095 days, 1 subject d) Dietary supplement 2000 ug/d for 81 days, 1 subject e) Dietary supplement 1000 ug/d for 113 days, 1 subject f) Postexposure (63 days), subject h) g) Postexposure (283 days), subject h) c) Postexposure (992 days), subject d) j) Postexposure (166 days), subject i) k) Mean 24-hr inhalation 1.9 ug/cu m, 112 days, 1 subject, (chamber level 0.019 ug/cu m, 5 hr/d, 3.5 d/wk), mean dietary intake 191 ug/d l) Mean 24-hr inhalation 1.0 ug/cu m, 112 days, 1 subject, (chamber level 0.019 ug/cu m, 10.5 hr/d, 4 d/wk), mean dietary intake 248 ug/d m) Mean 24-hr inhalation 19.3 ug/cu m, 112 days, 1 subject, (chamber level 0.157 ug/cu m, 6 hr/d, 3.5 d/wk), mean dietary intake 240 ug/d n) Mean 24-hr inhalation 30.1 ug/cu m, 112 days, 1 subject, (chamber level 0.157 ug/cu m, 7 hr/d, 5 d/wk), exposure periods 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000	Gross, S.B. 1981 Journal of Toxicology and Environmental Health 9:333-377
6497 Urine	Ingestion Inhalation		1	Not applicable	30.7 ug	Total excreted during chelation therapy (1 g CaNa2-EDTA 28/day for 5 days) Blood Pb before treatment, 127 ug/dl 43 yr old art conservator, NY Fatigue, dizziness, muscular pain in extremities, weakness of legs, burning pain in abdomen, epigastric discomfort, abdominal cramps, irritability, severe anesmia, apnoea, and basophilic stippling of red blood cells NEW YORK: ADULTS: CASE HISTORIES: LEAD POISONING: METAL POISONING: BLOOD: URINE: DRUG THERAPY: LEAD: METALS: ZINC: HEALTH HAZARDS: IMMUNIZATION: OCCUPATIONAL HAZARDS: FIBROSIS 11 Caucasians, 5 Blacks. Age 22-55 (mean 36 yr) CRIO: ADULTS: BLOOD: LUNGS: URINE: LEAD: BIOACCUMULATION: DRUGS: IMMUNIZATION: PARTICULATES: METALS Total excreted during chelation therapy (1 g CaNa2-EDTA 28/day for 5 days) Blood Pb before treatment, 127 ug/dl 43 yr old art conservator, NY Fatigue, dizziness, muscular pain in extremities, weakness of legs, burning pain in abdomen, epigastric discomfort, abdominal cramps, irritability, severe anesmia, apnoea, and basophilic stippling of red blood cells NEW YORK: ADULTS: CASE HISTORIES: LEAD POISONING: METAL POISONING: BLOOD: URINE: DRUG THERAPY: LEAD: METALS: ZINC: HEALTH HAZARDS: IMMUNIZATION: OCCUPATIONAL HAZARDS: FIBROSIS	Fischbein, A. Wallace, J. Anderson, R.R. Sassa, S. Fon, S. Bohl, A.B. Kappas, A. 1982 Journal of the American Medical Association 247(10):2097-2099

(NEXT PAGE)

Lead
7439-92-1

PB

AC 207.2, BP 127.8 C, SP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	FEED	GENERAL INFORMATION	REFERENCE
6494 Urine		AAS	a) 21 b) 43	a) 53.0-96.0 ug/g creatinine b) 4.1-28.6 ug/g creatinine	a) Not given b) Not given	a) Exposed b) Controls. Median 12.5 ug/g creatinine 5-95 percentile range Workers at secondary Pb smelting plant GENERAL: ADULTS; BLOOD; URINE; COMPARATIVE EVALUATIONS; INDUSTRIAL MEDICINE; CADMIUM; LEAD; MERCURY; METALS; PROTEINS; HEALTH HAZARDS; INDUSTRIAL PLANTS; OCCUPATIONAL HAZARDS; SMELTERS	Schaller, K.H. Gonzalez, J. Thurmer, J. Schuler, R. 1989 Beratungsblatt fuer Arbeitsmedizin Pb-Exposition Pb-Exposition Infektionskrankheiten und Hygiene, Abteilung I. Originale, Reihe B. Hygiene, Preventive Medizin 17:320-335

n-Butylene (6 CI)

Benzene, 1,3-dimethyl- (6 CI)

108-38-3

CB-910

BP 106.16, SP -87.8 C, VP 10 mm Hg at 28.3 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	FEED	GENERAL INFORMATION	REFERENCE
6494 Blood	Inhalation	GC	22	a) 7-8 umol/l b) 1-30 umol/l c) 35-50 umol/l d) 8-15 umol/l e) 15-50 umol/l f) 40-100 umol/l	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) Constant 180 ppm, day 1, 6 subjects b) Constant 180 ppm, with intermittent exercise, day 1, 8 subjects c) Fluctuating 70-200 ppm (mean 180 ppm), with exercise, day 1, 8 subjects d) Same as a), day 5 e) Same as b), day 5 f) Same as c), day 5 Maximum levels in morning (3 hr exposure) and afternoon (3 hr exposure). On day 5 afternoon exposures were doubled (200 ppm in d) and e) and 130-400 (mean 200) ppm in f)) Estimated from graph Healthy 18-35 yr olds Temperament of body balance and increased reaction time INDUSTRIAL CHEMICALS; BENZENE; HYDROGEN; ISOLATION; BLOOD	Mitsunaka, Y. Savolainen, K. 1980 Annals of Occupational Hygiene 23:411-422

(NEXT PAGE)

m-Xylene (8 CI)
Benzene, 1,3-dimethyl- (9 CI)
100-38-3
CB-810

HW 106.16, BP -67.8 C, VP 10 mm Hg at 28.3 C

(CONTINUED)

TOX USE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6500 Blood	Inhalation	GC	10	a) Not given b) Not given c) Not given d) Not given	a) 22.1 $\pm$ 0.5 b) 32.9 $\pm$ 0.2 c) 40.7 $\pm$ 0.9 d) 65.6 $\pm$ 0.5 e) 11.9 $\pm$ 0.5	a) 7.7 and 5.9 μ mol/l time-weighted average concentration in air (TWA), 5 subjects each exposure b) 5.9 μ mol/l TWA, 10 subjects c) 10.7 and 11.5 μ mol/l TWA, 5 subjects each exposure d) 11.9 μ mol/l TWA, 10 subjects Mean peak levels, 4 hr exposure periods Healthy 21-26 yr olds, wt 65-82 kg Psychophysiological functions impaired. Metabolism effects of m-xylene and alcohol usually additive. Intergalactic effects on body balance at the higher xylene level TWEAID: ADRENAL: BLOOD: DRUGS: ALCOHOLS: ALCOHOLIC BEVERAGES: KIDNEYS: IMMUNITY: SOLVENTS	Savolainen, E. 1980 Acta Pharmacologica et Toxicologica 46(5):368-372
6501 Breath	Inhalation	GC	22	a) 1.8-0.008 μ mol/l b) 2.5-0.009 μ mol/l c) 2.0-0.005 μ mol/l d) 0.5 - 0.008 μ mol/l e) 0.4 - 0.005 μ mol/l f) 0.6 - 0.008 μ mol/l	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 0 and 5 hr postexposure after constant 100 ppm, day 1, 6 subjects b) 0 and 16 hr postexposure after constant 100 ppm, with intermittent exercise, day 1, 8 subjects c) 0 and 16 hr postexposure after fluctuating 70-200 ppm (mean 100 ppm) with intermittent exercise, day 1, 8 subjects d) 0 and 6 hr, same as a), day 5, after constant 200 ppm e) 0 and 68 hr, same as b), day 5, after constant 200 ppm f) 0 and 45 hr, same as c), day 5, after constant 200 ppm Exposures 3 hr in morning and 3 hr in afternoon Estimated from graph Healthy 19-35 yr olds Impairment of body balance and increased reaction time INDUSTRIAL CHEMICALS: BLENDS: XYLENES: INHALATION	Riihimäki, V. Savolainen, E. 1980 Annals of Occupational Hygiene 23:411-422
6502 Breath		GC/MS	26	0.07-2.5 mg/l	0.5 mg/l	Estimated from graph Healthy 18-60 yr olds, non smokers. Field protocol: 14 days before and during exposure to m-xylene and amount of estrogenic constituents. ADULTS: BLENDS: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROPHYLLS	Krotonyński, E. Gabriel, G. O'Sullivan, E. 1979 Journal of Chromatographic Science 15:239-246

(SEE PAGE)

p-Xylene (8 CI)
 Chemical, 1,3-dimethyl- (8 CI)
 100-98-3
 CR-110-3
 MW 106.16, BP -47.4 C, VP 10 mm Hg at 20.3 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6503 Breath	Inhalation		5	a) 51.0-67.5% b) 47.8-72.8%	a) 57.6% b) 59.5%	a) Phenobarbital pretreatment 2 mg/kg/day, oral, 11 days b) No phenobarbital pretreatment On 12th day a) and b) exposed to xylene vapors, 400 mg/cu m for 8 h X difference of some 10% for two time periods and applied for two time periods (hr 1-3 and hr 4-7) during exposure Healthy 46-55 yr olds INDUSTRIAL CHEMICALS: LUNGS; URINE; HYPOPHOSPHATES; SEDATIVES; BENZOPHENONES; FURANS; INDUSTRIAL EMISSIONS; IRRADIATION; METABOLISM; METABOLITES; PMS	David, A. Fleish, J. Frank, E. Gut, I. Schwartz, V. 1979 International Archives of Occupational and Environmental Health 44:117-125
6504 Urine	Inhalation	GC	5	a) 0.7-0.9 g/8 hr b) 1.0-1.2 g/8 hr c) 1.0-1.3 g/24 hr d) 0.9-1.6 g/24 hr	a) 0.8 g/8 hr b) 0.9 g/8 hr c) 1.2 g/24 hr d) 1.3 g/24 hr	a) Excreted during 8 hr exposure, no pretreatment b) Excreted during 8 hr exposure, after 2 mg/kg/day phenobarbital, 11 days before exposure c) Excreted during 24 hr from beginning of exposure, no pretreatment d) Excreted during 24 hr from beginning of exposure, after 2 mg/kg/day phenobarbital, 11 days before exposure Exposure to xylene vapors, 400 mg/cu m for 8 hr Measured as m-methylbenzoic acid, metabolite Estimated from graph Phenobarbital pretreatment effect on amount of excreted metabolite Healthy volunteers, 46-55 yrs old INDUSTRIAL CHEMICALS: LUNGS; URINE; HYPOPHOSPHATES; SEDATIVES; BENZOPHENONES; FURANS; INDUSTRIAL EMISSIONS; IRRADIATION; METABOLISM; METABOLITES; PMS	David, A. Fleish, J. Frank, E. Gut, I. Schwartz, V. 1979 International Archives of Occupational and Environmental Health 44:117-125

At 24.305, mp 651 C, bp 1160 C, vp 1 mm Hg at 621 C, 10 mm Hg at 740 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	REMARKS	GENERAL INFORMATION	REFERENCE
6505 Adrenal gland	25		7	Not given	890 $\pm$ 100 ppm dry wt	Normal tissue Autopsies Japan TONGUE: IZICUMIN; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; INTERSTICES; KIDNEYS: LIVER; LUNG; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID; GLANDS; TRACHEA; ALVEOLUS; BARIUM; CADIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; ZINC; OCCUPATIONAL HAZARDS	Tsutsuka, H. 1951 Archives of Environmental Health 36(4):155-165
6506 Aorta	25		7	Not given	700 $\pm$ 230 ppm dry wt	Normal tissue Autopsies Japan TONGUE: IZICUMIN; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; INTERSTICES; KIDNEYS: LIVER; LUNG; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID; GLANDS; TRACHEA; ALVEOLUS; BARIUM; CADIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; ZINC; OCCUPATIONAL HAZARDS	Tsutsuka, H. 1961 Archives of Environmental Health 36(4):155-165
6507 Blood, plasma	133		133	a) Not given b) Not given	a) 1.79 $\pm$ 0.04 b) 1.6 $\pm$ 0.2	a) 102 healthy controls b) 31 patients with acute myocardial infarction BLOOD PLASMA: CARBONIC ACID; DISORDERS: HEART DISEASES; COPPER; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; ZINC; OCCUPATIONAL HAZARDS	Isakura, H. Saito, H. Saito, H. 1960 Trace Substances in Environmental Health 17(1), 9-30. Reprint, ed. pp 211-216
6508 Blood, serum	133		26	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 20.6 $\pm$ 0.7 ppm b) 19.5 $\pm$ 0.8 ppm c) 19.5 $\pm$ 0.8 ppm d) 20.2 $\pm$ 0.9 ppm e) 20.2 $\pm$ 0.9 ppm f) 19.7 $\pm$ 0.8 ppm g) 20.6 $\pm$ 0.8 ppm h) 21.1 $\pm$ 0.9 ppm i) 21.1 $\pm$ 0.9 ppm	a) Lung and respiratory tract b) Gastrointestinal tract c) Heart d) Cervix e) Lymphatic leukemia f) Malignant melanoma g) Hodgkin's lymphoma h) Healthy volunteers i) Geriatric patients a) type of cancer b) significant difference between controls and cancer patients c) Cancer patients (15-81 yr old); geriatric patients (65-81 yr old); healthy volunteers (20-84 yr old); UK UNITED KINGDOM: CARCINOMAS; LEUKEMIA; RELATIONS: MYELOPLASIA; SARCOMAS; BLOOD SPUR; CALCIUM; COPPER; MAGNESIUM; MANGANESE; METALS; ZINC; BIOINDICATORS	Caspi, I.D. Pines, R.H. Williams, D.C. Sankar, J.W.P. 1982 Oncology 39:38-41

(1994, p. 162)

Appendix
7A39-55-4

At 28.30S, BP 651 C, BP 1000 C, VP 1 m, Hg at 621 C, 10 m, Hg at 740 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6509 bone		ES	5	Not given	1400 $\pm$ or - 270 ppa dry wt	Normal tissue Autopsies Japan TONGUE: KIDNEY: ELEMENTS: JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS: AORTA: BONES: HEART: INTESTINES: KIDNEYS: LIVER: LUNGS: LYMPH NODES: SPLEEN: PANCREAS: STOMACH: THYROID GLANDS: TRACHEA: ALBUMEN: BARIUM: CLONING: CALCIUM: CHROMIUM: COBALT: COPPER: IRON: LEAD: MAGNESIUM: MANGANESE: METALS: MOLYBDENUM: NICKEL: PHOSPHORUS: POTASSIUM: SILICON: SILVER: SODIUM: STRONTIUM: TITANIUM: VANADIUM: ZINC: BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS	Tetsuka, H. 1981 Archives of Environmental Health 36 (4): 155-165
6510 Heart		ES	a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) 520-1100 ppa c) 150-1000 ppa d) Not applicable e) Not applicable Dry wt	a) 930 $\pm$ or - 370 ppa b) 910 ppa c) 593 ppa d) 460 ppa e) 240 ppa Dry wt	a) Normal sea b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan TONGUE: KIDNEY: ELEMENTS: JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS: AORTA: BONES: HEART: INTESTINES: KIDNEYS: LIVER: LUNGS: LYMPH NODES: SPLEEN: PANCREAS: STOMACH: THYROID GLANDS: TRACHEA: ALBUMEN: BARIUM: CAMIUM: CALCIUM: CHROMIUM: COBALT: COPPER: IRON: LEAD: MAGNESIUM: MANGANESE: METALS: MOLYBDENUM: NICKEL: PHOSPHORUS: POTASSIUM: SILICON: SILVER: SODIUM: STRONTIUM: TITANIUM: VANADIUM: ZINC: BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS	Tetsuka, H. 1981 Archives of Environmental Health 36 (4): 155-165
6511 Intestine		ES	10	Not given	670 $\pm$ or - 210 ppa dry wt	Normal tissue Autopsies Japan TONGUE: KIDNEY: ELEMENTS: JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS: AORTA: BONES: HEART: INTESTINES: KIDNEYS: LIVER: LUNGS: LYMPH NODES: SPLEEN: PANCREAS: STOMACH: THYROID GLANDS: TRACHEA: ALBUMEN: BARIUM: CAMIUM: CALCIUM: CHROMIUM: COBALT: COPPER: IRON: LEAD: MAGNESIUM: MANGANESE: METALS: MOLYBDENUM: NICKEL: PHOSPHORUS: POTASSIUM: SILICON: SILVER: SODIUM: STRONTIUM: TITANIUM: VANADIUM: ZINC: BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS	Tetsuka, H. 1981 Archives of Environmental Health 36 (4): 155-165

(NEXT PAGE)

Regeneration
7435-95-6

At 24.305, MP 651 C, SP 1100 C, VE 1 mm Hg at 621 C, 10 mm Hg at 740 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6512 Kidney		ES	a) 0 b) 2 c) 3 d) 1 e) 1	a) Not given b) 100-900 ppa c) 310-1000 ppa d) Not applicable e) Not applicable Dry wt	a) 670 + or - 140 ppa b) 743 ppa c) 550 ppa d) 200 ppa Dry wt	a) Normal sea b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan TONGUE: ZINCORUM; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; LIVER; KIDNEYS; KIDNEYS: LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALBUMEN; BARIUM; CALCIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6513 Liver		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) 610-810 ppa c) 570-1100 ppa d) Not applicable e) Not applicable Dry wt	a) 650 + or - 160 ppa b) 720 ppa c) 607 ppa d) 390 ppa e) 160 ppa Dry wt	a) Normal sea b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan TONGUE: ZINCORUM; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; LIVER; KIDNEYS; KIDNEYS: LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALBUMEN; BARIUM; CALCIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6514 Lung		ES	a) 12 b) 2 c) 3 d) 1 e) 1	a) Not given b) 600-630 ppa c) 420-840 ppa d) Not applicable e) Not applicable Dry wt	a) 720 + or - 190 ppa b) 615 ppa c) 650 ppa d) 620 ppa e) 300 ppa Dry wt	a) Normal sea b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan TONGUE: ZINCORUM; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; LIVER; KIDNEYS; KIDNEYS: LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALBUMEN; BARIUM; CALCIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

Magnesium
7839-95-8

RG

ACW 24.305, BP 651 C, BP 1100 C, BP 1 88 Hg at 621 C, 10 88 Hg at 740 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6515 Lymph node		ES	a) 3 b) 1 c) 3 d) 1 e) 1	a) Not given b) Not applicable c) 530-1100 ppm d) Not applicable e) Not applicable Dry wt	a) 1200 $\pm$ 480 ppm b) 70 ppm c) 770 ppm d) 760 ppm e) 530 ppm Dry wt	a) Normal men b) Chromate plating workers c) Chromate refinishing workers d) Airplane painter e) Stone mason Autopsies Japan TONGUE: EICOMIUM; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: FOMES; HEART; INTESTINES; KIDNEYS: LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIODISTRIBUTION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6516 Pancreas		ES	5	Not given	430 $\pm$ 99 ppm dry wt	Normal tissue Autopsies Japan TONGUE: EICOMIUM; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: FOMES; HEART; INTESTINES; KIDNEYS: LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIODISTRIBUTION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6517 Spleen		ES	a) 9 b) 2 c) 1 d) 1 e) 1	a) Not given b) 450-1300 ppm c) 400-1300 ppm d) Not applicable e) Not applicable Dry wt	a) 730 $\pm$ 170 ppm b) 840 ppm c) 713 ppm d) 710 ppm e) 230 ppm Dry wt	a) Normal men b) Chromate plating workers c) Chromate refinishing workers d) Airplane painter e) Stone mason Autopsies Japan TONGUE: EICOMIUM; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: FOMES; HEART; INTESTINES; KIDNEYS: LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIODISTRIBUTION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

Mezmesia
7439-95--a
Hg
Atw 24,305, MP 651 C, BP 1100 C, VP 1 mm Hg at 621 C, 10 mm Hg at 740 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SURVEY OF CASES	RANGE	REMARKS	GENERAL INFORMATION	REFERENCE
6519 Stomach		ES	10	Not given	670 + or - 210 ppm dry wt	Normal tissue Autopsies Japan TONGUE: ZINC; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLAND; TRACHEA; ALBUMEN; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6519 Thyroid gland		ES	8	Not given	350 + or - 93 ppm dry wt	Normal tissue Autopsies Japan TONGUE: ZINC; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLAND; TRACHEA; ALBUMEN; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6520 Tongue		ES	2	Not given	770 + or - 250 ppm dry wt	Normal tissue Autopsies Japan TONGUE: ZINC; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLAND; TRACHEA; ALBUMEN; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(END PAGE)

Regesius
7430-95-4
mp 651 C, bp 1100 C, VP 1 mm Hg at 621 C, 10 mm Hg at 740 C

(Continued)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUMMER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6521 Trachea		BS	2	Not given	0.50 ± 0.07 - 1.40 ppm dry wt	Normal tissue Autopsies Japan TONGUE; ZINCORINUS; ELEMENTS; JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; ADOMTS; SPOTS; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; TESTICULAR GLANDS; THYROID; GLANDS; TRACHEA; ALBUMIN; BARIUM; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MURDER; NICKEL; POTASSIUM; SILICA; SILICON; TIM; TITANIUM; VANADIUM; ZINC; PROACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Terashita, R. 1981 Archives of Environmental Health 36(4): 155-165
6522 Urine	Ingestion	BMS	2	a) Not given b) Not given c) Not given d) Not given	a) 170 ± 0.9 mg/24 hr b) 210 ± 0.5 mg/24 hr c) 185 ± 0.8 mg/24 hr d) 235 ± 0.9 mg/24 hr	a) Subject 1, intake 300 mg/24 hr, low fiber diet b) Subject 1, intake 650 mg/24 hr, high fiber diet c) Subject 2, intake 300 mg/24 hr, low fiber diet d) Subject 2, intake 720 mg/24 hr, high fiber diet Total dietary intake Means of 10 7-day periods for calcic intake from white bread in a) and c), and from high fiber, moderate phytate, local bread in b) and d) Both subjects in negative balance on high fiber diet. 35 and 20 yr old, wt 56.0 & 60.3 kg, Iran TEARS; ADULTS; NUTRITIONAL DEFICIENCIES; BLOOD PLASMA; BLOOD SPM; URINE; CALCIUM; MAGNESIUM; PROSPERMES; KIRC; DIETS; PYREXIS; FOODS; METALS	Reinhold, J.G. Paradi, R. Lad, P. 1976 Journal of Nutrition 106: 493-503

mp 54.9-56.0, bp 120 C, vp 1 mm Hg at 120 C, 10 mm Hg at 1510 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	MEAN	GENERAL INFORMATION	REFERENCE
6523 Adrenal gland		KS	7	Not given	0.79 $\pm$ 0.11 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; COPPER; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; METALS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZIRCONIUM; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6524 Aorta		KS	7	Not given	0.39 $\pm$ 0.06 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; METALS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZIRCONIUM; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6525 Blood, plasma		AMS		a) Not given b) Not given	a) 0.011-0.078 μ mol/L b) 0.023 $\pm$ 0.01 μ mol/L	a) Healthy controls b) 36 patients with acute myocardial infarction BLOOD: BLOOD, CAPILLARIES-HEART DISEASES; HEART TISSUES; COPPER; MANGANESE; METALS; ZINC	Zuckler, H. Bettan, H. Vetter, H. Task, B. 1980 Toxic Substances in Food Food Cosmetol. Health VI, B.D. Hamphill, ed. pp 211-216
6526 Blood, serum		AMS	a) 26 b) 21 c) 52 d) 11 e) 10 f) 21 g) 10 h) 10 i) 10	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 0.007 $\pm$ 0.001 b) 0.009 $\pm$ 0.002 c) 0.008 $\pm$ 0.002 d) 0.006 $\pm$ 0.002 e) 0.009 $\pm$ 0.001 f) 0.011 $\pm$ 0.004 g) 0.007 $\pm$ 0.001 h) 0.008 $\pm$ 0.001 i) 0.007 $\pm$ 0.005	a) Lung and respiratory tract b) Gastrointestinal tract c) Heart d) Liver e) Lymphatic leukemia f) Malignant melanoma g) Hodgkin's lymphoma h) Healthy volunteers i) Geriatric patients a-i) type of cancer No significant difference between controls and cancer patients Cancer Patients (15-81 yr olds), Geriatric Patients (65-81 yr olds), Healthy Volunteers (20-44 yr olds), NF UNITED KINGDOM: CARCINOMAS; LYMPHEMA; MELANOMAS; MYELOPLASIA; SARCOMAS; BLOOD; SERUM; CALCIUM; COPPER; MANGANESE; METALS; ZINC; BIOINDICATORS	Capel, I.D. Plecock, H.H. Williams, D.C. Nashaw, I.D.F. 1982 Oncology 30:38-41

--- PAGE ---

at 50.030, 100 1200 C, 100 2005 C, 100 1000 at 1202 C, 100 1000 at 1510 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUBSTANCE OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6527 Femur		ES	5	Not given	<1.0 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS: BONE MARROW: LIVER: TESTICLES: KIDNEYS: LUNG: LYMPH NODES: PANCREAS: SPLEEN: STOMACH: THYROID GLANDS: UTERUS: CERVIX: BARIUM: CADMIUM: CALCIUM: CHROMIUM: COBALT: COPPER: IRON: LEAD: MANGANESE: MERCURY: METALS: MOLYBDENUM: NICKEL: PHOSPHORUS: POTASSIUM: SILICON: SODIUM: STRONTIUM: TITANIUM: ZINC: OCCUPATIONAL HAZARDS: RADIATION: TOXICOLOGY: TONGUE: VINCOBIN: ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6528 Hair		BA	56	0.062x10 ⁻⁶ -0.3.1x10 ⁻⁶ g/g cu cm	0.859x10 ⁻⁶ (2-6) g/cu ca	3 cm segments of single hairs Some samples below detection limits ZINC: HAIR: FORENSIC MEDICINE: ARSENIC: BISMUTH: CHROMIUM: COPPER: GOLD: LANTHANUM: MANGANESE: MERCURY: METALS: SELENIUM: SILVER: SODIUM: STRONTIUM: ZINC: INDUSTRIAL ATROSPHERES	Djanczyk, E. 1976 Koball, K. Journal of Radioanalytical Chemistry 31:267-269
6529 Hair		HA	59	2-3.7 ng/g	Not given	Range of means, estimated from graph Arsenic, VI tharce, Asenit, Cairo, and Alexandria, Egypt EGYPT: HAIR: NAILS: ANTIMONY: CADMIUM: CESIUM: CHROMIUM: COBALT: IRON: MANGANESE: METALS: MOLYBDENUM: SCANDIUM: SELENIUM: SILVER: TUNGSTEN: ZINC: DRINKING WATER: POPULATION EXPOSURE: SOILS: URINE AREAS	Kasperch, E. 1976 Pawelczak, G.V. Palenczka, L.E. Nashish, S. Malfouz, M. 1992 Science of the Total Environment 22:149-168
6530 Hair		BA		a) 0.2-19.8 ppm b) 0.08-13.6 ppm c) 0.2-17.2 ppm d) 0.2-7.5 ppm	a) 4.21 ±0.3- 3.66 ppm b) Not sectioned, 16 samples c) Distal section, 16 samples d) Students in a), 28 samples Levels in people near fossil fuel power station twice those from other areas.	d) 12 cm length, 103 samples b) Root section, 16 samples c) Distal section, 16 samples d) Students in a), 28 samples Levels in people near fossil fuel power station twice those from other areas. Metropolitan Bombay, India INDIA: ADOLESCENTS: ADULTS: HAIR: ANTIMONY: ARSENIC: BISMUTH: CADMIUM: CHLORINE: CHROMIUM: COBALT: COPPER: GOLD: IODINE: IRON: LANTHANUM: MANGANESE: POTASSIUM: SCANDIUM: SELENIUM: SILVER: SODIUM: ZINC: ALB POLUTION: BIOACCUMULATION: FOSIL POLLUTION: POPULATION EXPOSURE: AREA: INDUSTRIAL ATROSPHERE: INDUSTRIAL EMISSIONS: INDUSTRIAL POLLUTION: POPULATION EXPOSURE: JERAM AREA: INDUSTRIAL CHEMICALS	Shat, K.N. Arasachala, J. Teganauchanian, S. Gangadhara, S. 1982 Science of the Total Environment 22:169-176

NEXT PAGE

Neoprene
7839-56-5

ACR 58,9360, HP 1200 C, EP 2095 C, VP 1 100 Hg at 1292 C, 10 100 Hg at 1513 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	MEAN	GENERAL INFORMATION	REFERENCE
6531 Hair		AMS	3	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 3.90 ug/g b) 2.78 ug/g c) 1.81 ug/g d) 1.16 ug/g e) 1.83 ug/g f) 1.25 ug/g	a) Subject 1, shaved hair b) Subject 1, after 12 successive acetone washes c) Subject 2, shaved hair d) Subject 2, after 12 successive acetone washes e) Subject 3, shaved hair f) Subject 3, after 12 successive washes in sodium lauryl sulfate g) a, c) e), 6-10 determinations, each subject. Data also for other procedures and washing agents. HAIR: COMPARATIVE EVALUATIONS: CADMIUM; COPPER; IRON; NICKEL; ZINC	Salas, E. Torio, E. Alipio, J.O. 1981 Analitica Clinica Acta 125:131-137
4532 Heart		ES	40 6 b) 2 c) 3 d) 1 e) 1	a) Not given b) 0.7-2.5 ppa c) 1.0-2.0 ppa d) Not applicable e) Not applicable f) Dry et	a) 0.67 $\pm$ 0.27 ppa b) 1.6 ppa c) 0.6 ppa d) 0.49 ppa e) 0.51 ppa f) Dry et	a) Normal healthy men b) Chromium plating workers c) Chromeate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; ZINC; TITANIUM; VANADIUM; XIN; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXIC; ZINC; ZINC; ZINC	Teraoka, E. 1981 Archives of Environmental Health 36(4):155-165
6533 Intestine		ES	19	Not given	1.1 $\pm$ 0.87 ppa dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; ZINC; TITANIUM; VANADIUM; XIN; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXIC; ZINC; ZINC; ZINC	Teraoka, E. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

$\text{At} 50.9300$, $\text{MP } 1240^\circ\text{C}$, $\text{BP } 2095^\circ\text{C}$, $\text{VP } 1 \text{ mm Hg at } 1292^\circ\text{C}$, $10 \text{ mm Hg at } 1510^\circ\text{C}$

(CONTINUED)

TOXIC	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
536 Kidney		ES	a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) 0.95-4.4 ppm c) 1.1-3.3 ppm d) Not applicable e) Not applicable Dry wt	a) 1.5 or- 0.67 ppm b) 4.7 ppm c) 2.0 ppm d) 0.90 ppm e) 0.64 ppm Dry wt	a) Normal healthy men b) Chronicle painting workers c) Chromate refinishing workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLAND; UTERUS; ADRENAL GLANDS; BILIRUBIN; CALCIUM; CHLORINE; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; POLYBENZENE; SODIUM; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; SYMPTOMS; EFFECTS	Terakata, H. 1991 Archives of Environmental Health 36(4):155-165
635 Liver		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) 2.3-7.6 ppm c) 3.0-4.6 ppm d) Not applicable e) Not applicable Dry wt	a) 4.4 or- 1.8 ppm b) 5.0 ppm c) 3.8 ppm d) 2.1 ppm e) 0.64 ppm Dry wt	a) Normal healthy men b) Chronicle painting workers c) Chromate refinishing workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLAND; UTERUS; ADRENAL GLANDS; BILIRUBIN; CALCIUM; CHLORINE; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; POLYBENZENE; SODIUM; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; SYMPTOMS; EFFECTS	Terakata, H. 1991 Archives of Environmental Health 36(4):155-165
636 Liver		BA	30	0.5-1.9 ug/g Not wt	Not given	Category 1 (first priority element) as proposed by International Workshop on Monitoring Environmental Materials and Specimens Banking Autopsies; Baltimore, MD. Minneapolis, MN, and Seattle, WA MAYLAND; MINNESOTA; WASHINGTON; AUTOPSIES; LIVER; MEASUREMENTS; METALS; ALUMINUM; ARSENIC; BARIUM; CADMIUM; CHROMIUM; COBALT; COPPER; FLUORINE; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MICKLE; NICKEL; SILVER; STRONTIUM; TITANIUM; VANADIUM; ZINC; POPULATION EXPOSURE	Barriaco, S.B. Isaiah, M. Vine, S.A. EPA 600/3-81-025, 6 pp.

(NEXT PAGE)

ANAL. Calcd for $C_{10}H_{10}O$: C, 88.10%; H, 7.39%. Found: C, 88.12%; H, 7.38%. IR (KBr): ν_{max} 1710 (C=O), 1640 (C=C), 1610 (C=C), 1510 (C=C) cm^{-1} . ^1H NMR (CDCl₃): δ 2.05 (s, 3H, CH₃), 2.10 (s, 3H, CH₃), 6.50 (d, 1H, H_A), 6.55 (d, 1H, H_B), 6.60 (d, 1H, H_C), 6.65 (d, 1H, H_D), 6.70 (d, 1H, H_E), 6.75 (d, 1H, H_F) ppm. ^{13}C NMR (CDCl₃): δ 15.0 (CH₃), 15.5 (CH₃), 124.0 (CH), 124.5 (CH), 129.2 (CH), 129.5 (CH), 130.0 (CH), 130.5 (CH), 151.0 (C=O) ppm.

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6537 Lung		ES	a) 12 b) 2 c) 3 d) 1 e) 1	a) Not given b) 1.7-4.2 ppm c) 1.3-18 ppm d) Not applicable e) Not applicable Dry wt	a) 3.1 *or- 0.53 ppm b) 2.9 ppm c) 7.6 ppm d) 1.2 ppm e) 3.9 ppm Dry wt	a) Normal healthy men b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN; ADULTS; AUTOPSIES; AIRWAY; GLANDS; LUNGS; SPLEEN; PANCREAS; LYMPH NODES; KIDNEYS; LIVER; LUNG; STOMACH; THYROID GLANDS; SPLEEN; ADRENALS; TESTIS; UTERUS; OVARY; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; NICKEL; PHOSPHORUS; POLYMERIZATION; SILICON; SODIUM; POTASSIUM; TITANIUM; VANADIUM; ZINC; HAZARDS: OCCUPATIONAL HAZARDS; TOXICITY; ELEMENTS	Tanaka, R. 1961 Archives of Environmental Health 36 (4): 155-165
6538 Lymph node		ES	a) 3 b) 1 c) 3 d) 1 e) 1	a) Not given b) Not applicable c) 2.4-11 ppm d) Not applicable e) Not applicable Dry wt	a) 7.5 *or- 1.9 ppm b) 1.9 ppm c) 5.6 ppm d) 3.2 ppm e) 3.3 ppm Dry wt	a) Normal healthy men b) Chromate plating worker c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; LUNGS; SPLEEN; PANCREAS; LYMPH NODES; KIDNEYS; LIVER; LUNG; STOMACH; THYROID GLANDS; SPLEEN; ADRENALS; TESTIS; UTERUS; OVARY; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; NICKEL; PHOSPHORUS; POLYMERIZATION; SILICON; SODIUM; POTASSIUM; TITANIUM; VANADIUM; ZINC; HAZARDS: OCCUPATIONAL HAZARDS; TOXICITY; ELEMENTS	Tanaka, R. 1961 Archives of Environmental Health 36 (4): 155-165
6539 Mail		BA	56	2-11.7 ug/y	Not given	Paste of means, estimated from graph, samples from 5 Egyptian cities from Aswan to Alexandria Aswan, El Kharga, Assuit, Cairo, and Alexandria, Egypt EGYP; MAIL; METALS; ARSENIC; CADMIUM; CHROMIUM; COBALT; IRON; MANGANESE; METALS; POLYMERIZATION; SCANDIUM; SELENIUM; SILVER; YAGSIUM; ZINC; DRINKING WATER; POPULATION PROPOSED; SOILS; ORGAN AERIALS	Fenster, K. Fenster, G. Freundshagen, I.E. Freundshagen, R. Malcolm, R. 1982 Science of the Total Environment 22:149-160

INVERT PAGE)

At 50–9300, MP 1200 C, BP 2095 C, VP 1 mm Hg at 1292 C, 10 mm Hg at 1510 C

(CONTINUED)

TISSUE	REPORTER ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6540 Pancreas		ES	5	Not given	1.6 $\pm$ 0.7 ppm dry wt	Normal tissue autopsies Japan JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINCORIN; ELEMENTS	Tsuruta, H. 1981 Archives of Environmental Health 36(4):155-165
6541 Spleen		ES	a) 2 b) 2 c) 3 d) 1 e) 1	a) Not given b) 2.8-5.5 ppm c) 1.3-4.2 ppm d) Not applicable e) Not applicable Dry wt	a) 1.3 $\pm$ 0.7 ppm b) 3.2 ppm c) 3.1 ppm d) 1.7 ppm e) 1.3 ppm Dry wt	a) Normal healthy sea b) Chroacia plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINCORIN; ELEMENTS	Tsuruta, H. 1981 Archives of Environmental Health 36(4):155-165
6542 Stomach		ES	10	Not given	1.1 $\pm$ 0.7 ppm dry wt	Normal tissue autopsies Japan JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINCORIN; ELEMENTS	Tsuruta, H. 1981 Archives of Environmental Health 36(4):155-165

(附註五)

171

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	EXPOSURE	DATA	GENERAL INFORMATION	REFERENCE
6546 Blood	Ingestion		1	Not applicable	251 ppb	Extrapolated from hair Hg level Subject had pica for paper, tested by Fe deficiency, and was found to contain 191-361 ppb Hg daily. 96 yr old, Fe-deficient native (Indian or Inuit), Canada Occipital headaches, dirty spells, tunnel vision, and red rash on upper extremities CASES: CASE HISTORIES: NEURAL POSSIBLE OCCUPATIONAL DEFICIENCIES: FOODS: MERCURY; METALS: BISMUTH BISMUTH; PTCA	Olymph, P. Sharp, D.H. New England Journal of Medicine 306(17):1056-1057
6547 Blood		AAS	21	1.4-17.6 ug/100 ul	Not given	Chemical plant workers with average workplace time 8.25 yr 5-95 percentile range GEMMAY: LUNGS: BLOOD: URINE: CONTAMINANT EXPOSURES: INDUSTRIAL CONTAMINANTS: CANNING: LAMP: MERCURY; METALS: PROTEINS: HEALTH HAZARDS: INDUSTRIAL PLANTS: OCCUPATIONAL HAZARDS: SHELTERS	Schaller, K.H. Schaller, J. Schaller, J. Schaller, H. 1980 Zeitschrift fuer Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene, 187:18-24 1. Occupational Health Hygiene, Preventive Medicine 171:320-325
6548 Blood, cells		GC-EC	a) 26 b) 26	a) Not given b) Not given	a) 2.5 $\pm$ 0.8 ug/g b) 1.4 $\pm$ 0.2 ug/g	a) Maternal samples b) Placental samples Significant difference between a) and b) ($p < 0.01$). Organic Hg levels similar for a) (3.0 $\pm$ 2.1 ug/g) but significantly higher for b) (3.9 $\pm$ 3.0 ug/g). Neither a) nor b) correlated with placental inorganic Hg levels Patients residing in or near Cleveland, OH OHIO: ADULTS: NEUROSIS: BLOOD PLASMA: EXPOSURES: PLACENTA: COMPARTIVE EVALUATIONS: MERCURY INORGANIC COMPOUNDS: MERCURY ORGANIC COMPOUNDS: METALS: PREGNANCY: MERCURY	Kuhnert, P.H. Kuhnert, B.H. Kuhnert, P. 1981 American Journal of Obstetrics and Gynecology 133:209-213
6549 Blood, cells		GC	a) 26 b) 26	a) Not given b) Not given	a) 2.5 $\pm$ 0.8 ug/g b) 1.4 $\pm$ 0.2 ug/g	a) Maternal erythrocytes b) Placental erythrocytes c) Significantly higher than b) Patients residing in Cleveland, OH. PREGNANCY: MERCURY: MERCURY INORGANIC COMPOUNDS: METALS: RADICALS: BLOOD: PLACENTA: OHIO: FETUS: EXPOSURES	Kuhnert, P.H. Kuhnert, B.H. Kuhnert, P. Prochaska, A.L. 1980 Proceedings, University of Cincinnati Annual Conference on Trace Substances in Environmental Health 18:182-188

SECRET PAGE)

Mercury
7439-97-6

At 200.59, MP -18.87 C, BP 356.72 C, VP 210(E-3) mm Hg at 25 C, 100 mm Hg at 240 C (CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6550 Blood, placenta		GC-EC	a) 22 b) 22	a) Not given b) Not given	a) 1.7 $\mu\text{g/g}$ b) 2.6 $\mu\text{g/g}$	a) Maternal samples b) Fetal samples Significantly different ($p < 0.02$) Both a) and b) significantly greater than corresponding organic Hg levels (0.001-0.2 and 0.8 $\mu\text{g/g}$ - 0.3 $\mu\text{g/g}$, respectively) No correlation with inorganic Hg levels in placenta Patients residing in or near Cleveland, OH	Kuhnert, P.-B. Kuhnert, P.-B. 1981 American Journal of Obstetrics and Gynecology 139:209-213
6551 Rose	HA		a) 7 b) 5	a) 0.02-0.10 ppm b) 0.08-3.06 ppm	a) 0.045 ppm b) 0.040 ppm Median	a) Exposed group b) Controls Autopsies, feces 45-75 yr old factory workers, Sweden. Controls from unpolluted areas ARTISONS: ASBESTIC; CLOTHING; COPPER; LEAD; MERCURY; SILICON; STEEL; TIN; ZINC; BIOACCUMULATION; INDUSTRIAL ATMOSPHERES; INDUSTRIAL PLANTS; POPULATION EXPOSURE; SHELTERS; FEDERAL; COMPARATIVE EVALUATIONS; SWEDEN; AUTOPSIES; OCCUPATIONAL HAZARDS; METALS	Lindb, G. Brane, B. Nordberg, G. Wester, P.-O. 1980 Science of the Total Environment 16:109-116
6552 Brain	HAAS		51	a) 5-26 $\mu\text{g/kg}$ b) 5-42 $\mu\text{g/kg}$ c) 5-26 $\mu\text{g/kg}$ d) 5-17 $\mu\text{g/kg}$ e) 5-16 $\mu\text{g/kg}$ f) 5-16 $\mu\text{g/kg}$ g) 5-16 $\mu\text{g/kg}$ h) 5-16 $\mu\text{g/kg}$ i) 5-16 $\mu\text{g/kg}$	a) 5 $\mu\text{g/kg}$ b) 5 $\mu\text{g/kg}$ c) 6.3 $\mu\text{g/kg}$ d) 5 $\mu\text{g/kg}$ e) 5 $\mu\text{g/kg}$ f) 5 $\mu\text{g/kg}$ g) 5 $\mu\text{g/kg}$ h) 5 $\mu\text{g/kg}$ i) 5 $\mu\text{g/kg}$ Median	a) Total b) Men c) Women d) Total e) Men f) Women g) Total h) Men i) Women Cerebellum (c-c), cerebrum cortex (d-f) and cerebrum surface (g-i) Autopsies, Germany GERMANY; AUTOPSIES; BRAIN; KIDNEYS; LIVER; MERCURY; METALS	Schle, E. Freitag, E.A. Scheller, K.A. Scheller, K.A. Scheller, K.A. 1981 Zentralblatt für Bakteriologie, Parasitenkunde, Infektionskrankheiten, und Hygiene, Erste Abteilung, Originale Sektion B, Hygiene, Bakteriologie, Präventive Medizin 171:65-67
6553 Brain	HAAS		82	a) 1.7-69.9 $\mu\text{g/kg}$ b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 6.4 $\mu\text{g/g}$ b) 6.8 $\mu\text{g/kg}$ c) 6.2 $\mu\text{g/g}$ d) 10.7 $\mu\text{g/g}$ e) 9.3 $\mu\text{g/g}$ f) 9.0 $\mu\text{g/g}$ g) 4.7 $\mu\text{g/g}$ h) 3.2 $\mu\text{g/g}$ S.E.	a) All samples b) 0-9 yr olds, 2 samples c) 10-49 yr olds, 6 samples d) 50-59 yr olds, 15 samples e) 60-69 yr olds, 21 samples f) 70-79 yr olds, 22 samples g) 80-89 yr olds, 4 samples h) 90-96 yr olds, 2 samples Postmortem Czechoslovakia, 1980 CZECHOSLOVAKIA; ADULTS; AUTOPSIES; CHILDREN; NEUROM; BLOOD; BRAIN; HAIR; KIDNEYS; LIVER; LUNGS; MUSCLES; PANCREAS; PLACENTA; URINE; MERCURY; METALS; BIOACCUMULATION; FOOD POISONING; POPULATION EXPOSURE; POPULATION EXPOSURE; POPULATION EXPOSURE; URINE; METALS	Tuck, J. Tuck, J. 1981 Journal of Hygiene, Epidemiology, and Microbiology and Immunology 25(4):336-363

(NEXT PAGE)

lit 200.59, mp -30.97 C, bp 356.72 C, vp 2X10⁻³ mm Hg at 260 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6558 Hair	HA	HA	54	1.41-2.61 ug/g	1.85 ug/g	Range of means, 5 localities Residents of Iceland ADULTS: HAIR: ARSENIC; CADMIUM; MERCURY; STRALS: SELONIUM; ZINC	Johannesson, T. Lunde, G. Steinnes, E. 1991 Acta Pharmacologica et Toxicologica 48: 185-189
6555 Hair			a) 29 b) 44 c) 7 d) 0	a) 238-12,766 ug/kg b) 113-1,508 ug/kg c) 8,209-135,508 ug/kg d) 503-4,958 ug/kg	a) 1,038 ug/kg b) 355 ug/kg c) 29,673 ug/kg d) 2,463 ug/kg	a) Children, rural area b) Children, urban area c) Exposed workers d) Nonexposed workers 9-11 yr old children and employees at grain fungicide treatment facility, Czechoslovakia CZECHOSLOVAKIA: ADULTS: AUTOPSIES: BLOOD: MERCURY; BLOOD: BRAIN: BRAIN: MERCURY; LIVER: MERCURY; PANCREAS: PLACENTA: MERCURY; STRALS: BIOACCUMULATION: FOOD PRESERVATIVES: OCCUPATIONAL HAZARDS; POPULATION EXPOSURE: RURAL AREAS; URBAN AREAS	Tock, J. Tock, R. 1981 Journal of Hygiene, Microbiology and Immunology 25(4): 354-363
6556 Hair	HA		2	5.0x10 ⁻¹⁰ (2-6)-10.16x10 ⁻⁶ g/cu cm	Not given	3 cm segments of single hairs Some samples below detection limits ZINCUM: HAIR: FORENSIC MEDICINE; RESURGENT PATHOGENS: AIRBORNE; AIRBORNE: METALS: COPPER; LAURENCE: MANGANESE; MERCURY; METALS: SELONIUM; SILVER; SODIUM; SYMPTOMS: ZINC; INDUSTRIAL ATMOSPHERES	Djuczynski, E. Roholl, K. 1976 Journal of Radioanalytical Chemistry 31:267-289
6557 Hair			30	a) 18.8-154.6 nmoI/g b) 0.2-199.6 nmoI/g c) 0.2-15.0 nmoI/g d) 10.5-183.9 nmoI/g e) 11.0-90.4 nmoI/g f) 38.2 nmoI/g g) 9.0-127.5 nmoI/g h) 11.0-55.5 nmoI/g	a) 48.8 nmoI/g b) 43.9 nmoI/g c) 5.1 nmoI/g d) 32.3 nmoI/g e) 4.2 nmoI/g f) 38.2 nmoI/g g) 37.8 nmoI/g h) 31.1 nmoI/g	a) Hales, total Hg, 15 washed 1970 samples, measured in 1981 b) Females, same as a) c) Hales, Inorganic Hg, 15 washed 1970 samples, measured in 1981 d) Females, same as c) e) Hales, organic Hg, a) blood d) f) Hales, organic Hg, b) hair g) Hales, organic Hg, 15 washed samples, original 1970 measurements h) Females, same as g) Higher 1981 measurements attributed to different treatment of samples 2-61 yr olds, high fish consumption, Japan JAPAN: ADOLSCENTS: ADULTS: AGE; CHILDREN: STRALS: MERCURY; MERCURY INORGANIC COMPOUNDS: MERCURY INORGANIC COMPOUNDS: METALS: BIOACCUMULATION; FISHES: FOODS: POPULATION EXPOSURE	Suzuki, T. Yasamoto, E. 1982 Bulletin of Environmental Contamination and Toxicology 28: 186-188

----- PAGE -----

mp 200.59, bp -38.67 C, bp 356.72 C, vp 2110(2-3) mm Hg at 25 C, 100 mm Hg at 260 C (CONTINUED)

TISSUE	EXPOSURE ROUTE	ANATOMICAL SITE	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6556 Kidney		AMS	51	a) <2.5-801 ug/kg b) <2.5-853 ug/kg c) <2.5-801 ug/kg	a) 96.0 ug/kg b) 55.5 ug/kg c) 99.9 ug/kg Median	a) Total b) Men c) Woman Autopsies, Germany GERMANY: AUTOPSIES; BRAIN; KIDNEYS; LIVER: MERCURY; METALS	Schleier, B. Festler, E. Schaller, K.H. Schallmann, B. Wollie, B. 1981 Zentralblatt für Bakteriologie, Parasitenkunde, Infektionskrankheiten, und Hygiene, Erste Abteilung, 181, 6 Heide B. Hygiene, Bakteriologie, Präventive Medizin 173:45-62
6559 Kidney		AMS	83	a) 4.3-946.0 ug/kg b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 90.4 +or- 130.2 ug/kg b) 158.1 ug/kg c) 39.4 +or- 30.6 ug/kg d) 131.6 +or- 238.2 ug/kg e) 61.0 +or- 62.8 ug/kg f) 123.7 +or- 146.7 ug/kg g) 93.5 +or- 118.7 ug/kg h) 58.0 ug/kg S.E.	a) All samples b) 0-3 yr olds, 2 samples c) 40-49 yr olds, 6 samples d) 50-59 yr olds, 15 samples e) 60-69 yr olds, 21 samples f) 70-79 yr olds, 23 samples g) 80-89 yr olds, 14 samples h) 90-96 yr olds, 2 samples Postmortem Czechoslovakia, 1980 CZECHOSLOVAKIA: ADULTS; AUTOPSIES; CHILDREN; URINARY; BLOOD; BRAIN; HAIR; KIDNEYS; LIVER; LUNG; MUSCLES; PANCREAS; PLACENTA; URINE; MERCURY; METALS; BIOACCUMULATION; FOOD PRESERVATIVES; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE; RURAL AREAS; URBAN AREAS	Tuck, J. Tuck, H. 1981 Journal of Hygiene, Epidemiology, and Immunology 25 (4): 334-363
6560 Liver		AMS	51	a) <2.5-437 ug/kg b) <2.5-437 ug/kg c) 16-156 ug/kg d) <2.5-858 ug/kg e) <2.5-858 ug/kg f) 8-121 ug/kg	a) 59.0 ug/kg b) 55.5 ug/kg c) 62.0 ug/kg d) 54.0 ug/kg e) 58.5 ug/kg f) 55.0 ug/kg Median	a) Total b) Men c) Woman d) Total e) Men f) Women Left (a-c) and right (d-f) lobes Autopsies, Germany GERMANY: AUTOPSIES; BRAIN; KIDNEYS; LIVER: MERCURY; METALS	Schleier, B. Festler, E. Schaller, K.H. Schallmann, B. Wollie, B. 1981 Zentralblatt für Bakteriologie, Parasitenkunde, Infektionskrankheiten, und Hygiene, Erste Abteilung, 181, 6 Heide B. Hygiene, Bakteriologie, Präventive Medizin 173:45-62
6561 Liver		AMS	30	0.005-0.25 ug/g Not wt	Not given	Category 1 (first priority element) as determined by the National Workshop on Monitoring Environmental Materials and Specimen Banking Autopsies, Baltimore, MD. Minneapolis, MN, and Seattle, WA MARIANA: MINNESOTA; WASHINGTON; AUTOPSIES; LIVER; MEASUREMENT METHODS; ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BISMUTH; CADMIUM; COPPER; COBALT; CHROMIUM; CHLORINE; COPPER; FLUORINE; IRON; LEAD; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; NIOBIUM; SILVER; STRONTIUM; THALLIUM; TITANIUM; ZINC; POPULATION EXPOSURE	Harison, S.H. Festler, E. Schaller, K.H. Schallmann, B. Wollie, B. 1981 EPA 600/31-81-025, 6 pp.

(NET WEIGHT)

Mercury
7439-97-6

Fig. 200.5%, BP 356.72 C, VP 2110 (E-3) mm Hg at 25 C, 100 mm Hg at 260 C (CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6562 Liver		AAS	87	a) 4.1-528.0 ug/kg b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 47.9 $\pm$ 0.3 ug/kg b) 22.0 $\pm$ 0.3 ug/kg c) 41.7 $\pm$ 0.3 ug/kg d) 67.0 $\pm$ 0.3 ug/kg e) 36.0 $\pm$ 0.3 ug/kg f) 36.0 $\pm$ 0.3 ug/kg g) 41.7 $\pm$ 0.3 ug/kg h) 46.0 $\pm$ 0.3 ug/kg i) 9.1 ug/kg S.E.	a) All samples b) 0-9 yr olds, 2 samples c) 10-49 yr olds, 6 samples d) 50-59 yr olds, 17 samples e) 60-69 yr olds, 21 samples f) 70-79 yr olds, 24 samples g) 80-89 yr olds, 15 samples h) 90-96 yr olds, 2 samples Postmortem Czechoslovakia, 1980 CHILDREN: AMNIONS; AUTOPSIES; CHILDREN: BLOOD; BRAIN; HAIR; KIDNEYS; LIVER; LUNGS; PANCREAS; PLACENTA; URINE; MERCURY; FETALS; BIOACCUMULATION; FOOD PRESERVATIVES; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE; RURAL AREAS; URBAN AREAS	Tuck, J. Tuck, R. Journal of Hygiene, Epidemiology and Microbiology 25(4): 354-363
6563 Lung		AAS	75	a) 2.0-280.0 ug/kg b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 25.3 $\pm$ 0.3 ug/kg b) 21.0 $\pm$ 0.3 ug/kg c) 16.0 $\pm$ 0.3 ug/kg d) 26.4 $\pm$ 0.3 ug/kg e) 25.3 $\pm$ 0.3 ug/kg f) 23.3 $\pm$ 0.3 ug/kg g) 18.5 $\pm$ 0.3 ug/kg h) 16.1 ug/kg S.E.	a) All samples b) 0-9 yr olds, 2 samples c) 10-49 yr olds, 5 samples d) 50-59 yr olds, 14 samples e) 60-69 yr olds, 21 samples f) 70-79 yr olds, 24 samples g) 80-89 yr olds, 11 samples h) 90-96 yr olds, 2 samples Postmortem Czechoslovakia, 1980 CHILDREN: AMNIONS; AUTOPSIES; CHILDREN: BLOOD; BRAIN; HAIR; KIDNEYS; LIVER; LUNGS; PANCREAS; PLACENTA; URINE; MERCURY; FETALS; BIOACCUMULATION; FOOD PRESERVATIVES; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE; RURAL AREAS; URBAN AREAS	Tuck, J. Tuck, R. Journal of Hygiene, Epidemiology and Microbiology 25(4): 354-363
6564 Muscle		AAS	83	a) 0.9-45.0 ug/kg b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 7.2 $\pm$ 0.3 ug/kg b) 7.1 $\pm$ 0.3 ug/kg c) 8.7 $\pm$ 0.3 ug/kg d) 5.9 $\pm$ 0.3 ug/kg e) 7.8 $\pm$ 0.3 ug/kg f) 7.3 $\pm$ 0.3 ug/kg g) 4.8 $\pm$ 0.3 ug/kg h) 1.8 ug/kg S.E.	a) All samples b) 0-9 yr olds, 2 samples c) 10-49 yr olds, 6 samples d) 50-59 yr olds, 15 samples e) 60-69 yr olds, 21 samples f) 70-79 yr olds, 23 samples g) 80-89 yr olds, 14 samples h) 90-96 yr olds, 2 samples Postmortem Czechoslovakia, 1980 CHILDREN: AMNIONS; AUTOPSIES; CHILDREN: BLOOD; BRAIN; HAIR; KIDNEYS; LIVER; LUNGS; PANCREAS; PLACENTA; URINE; MERCURY; FETALS; BIOACCUMULATION; FOOD PRESERVATIVES; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE; RURAL AREAS; URBAN AREAS	Tuck, J. Tuck, R. Journal of Hygiene, Epidemiology and Microbiology 25(4): 354-363

(SEE PAGE)

Mercury
7439-97-6

BP 356.72 C, VP 2110 (E-3) mm Hg at 25 C, 100 mm Hg at 260 C

(CONTINUED)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6565 Placenta		AAS	27	a) 1.6-259.0 ug/kg b) Not given c) Not given d) Not given e) Not given f) Not given	a) 29.5 $\pm$ 50.7 ug/kg b) 40-45 yr olds, 3 samples c) 50-59 yr olds, 6 samples d) 60-69 yr olds, 7 samples e) 70-79 yr olds, 9 samples f) 80-89 yr olds, 2 samples Postmortem Czechoslovakia, 1980 CEROSLOVAKIA: ADULTS; AUTOPSIES; CHILDREN; NEWBORN; BLOOD; BRAIN; HAIR; KIDNEYS; LIVER; LUNGS; MUSCLES; PANCREAS; PLACENTA; URINE; MERCURY; PRESERVATION; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE; RURAL AREAS; URBAN AREAS	Tuck, J. Tuck, M. Journal of Hygiene, Epidemiology, and Microbiology 25(4):354-363	
6566 Placenta		GC-EC	28	Not given	5.3 $\pm$ 3.2 ug/y	Placental organic Hg level (1.4 $\pm$ 0.001) significantly lower (p < 0.001) than inorganic Hg No correlation with inorganic Hg levels in maternal or fetal red blood cells or plasma Patients residing in or near Cleveland, OH OHIO: ADULTS; NEWBORN; BLOOD PLASMA; ERYTHROCYTES; PLACENTA; COMPARATIVE EVALUATIONS; MERCURY INORGANIC COMPOUNDS; MERCURY ORGANIC COMPOUNDS; PREGNANCY; MERCURY	Kuhse, P.M. Kuhse, B.B. Erhard, P. American Journal of Obstetrics and Gynecology 139:209-213
6567 Placenta		AAS	1	Not applicable	12.9 ug/kg	Stillbirth Czechoslovakia, 1980 CEROSLOVAKIA: ADULTS; AUTOPSIES; CHILDREN; NEWBORN; BLOOD; BRAIN; HAIR; KIDNEYS; LIVER; LUNGS; MUSCLES; PANCREAS; PLACENTA; URINE; MERCURY; PRESERVATION; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE; RURAL AREAS; URBAN AREAS	Tuck, J. Tuck, M. Journal of Hygiene, Epidemiology, and Microbiology 25(4):354-363
6568 Placenta		GC	28	Not given	5.3 $\pm$ 3.2 ug/y	Significantly higher than methyl Hg (1.4 $\pm$ 1.1 ug/g) Patients residing in Cleveland, OH PREGNANCY; MERCURY; MERCURY INORGANIC COMPOUNDS; MERCURY ORGANIC COMPOUNDS; PLACENTA; OHIO; FETUS; ERYTHROCYTES	Kuhse, P.M. Kuhse, B.B. Erhard, P. Proceedings, University of Cincinnati Annual Conference on Trace Substances in the Environment 18:182-188

(8877) (PAGE 2)

(NEXT PAGE)

Mercury
7439-97-6

atw 200.59, mp -38.87 C, bp 356.72 C, VP 2X10⁻³ mm Hg at 25 C, 190 mm Hg at 260 C (CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6569 Urine			a) 23 b) 44 c) 7 d) 7	a) 0.5-10.3 ug/l b) 1.2-3.0 ug/l c) 1.7-14.8 ug/l d) 0.9-8.9 ug/l	a) 1.7 ug/l b) 1.8 ug/l c) 2.6 ug/l d) 2.6 ug/l	a) Children, rural area b) Children, urban area c) Exposed workers d) Homebased workers 9-11 yr old children and employees at grain fungicide treatment facility, Czechoslovakia CZECHOSLOVAKIA: ADULTS; AUTOPSY; CHILDREN; NEWBORN; BLOOD; BRAIN; HAIR; KIDNEYS; LIVER; LUNGS; MUSCLES; PANCREAS; PLACENTA; URINE; MERCURY; PRENATAL; PREGNANT; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE; RURAL AREAS; URBAN AREAS	Tucek, J. Tucek, M. 1981 Journal of Hygiene, Epidemiology, Microbiology and Immunology 25(4):358-363
6570 Urine		AAS	23	53.0-786.0 ug/g creatinine	Not given	Chemical plant workers, average workplace time 8.25 yr GERMANY: ADULTS; BLOOD; URINE; COMPENSATION; ENVIRONMENT; INDUSTRIAL; MERCURY; CADMIUM; URINE; METALS; PROTEINS; HEALTH HAZARDS; INDUSTRIAL PLANTS; OCCUPATIONAL HAZARDS; SHELTERS	Schaller, K.H. Gonzales, J. Thurau, J. Schiele, E. 1980 Zentralblatt für Bakteriologie, Supplementum Infectionserkrankungen und Hygiene, Abteilungs- und Hygiene, Reihe B, 1. Originale, Reihe B, Hygiene, Preventive Medizin 171:320-335

Mercury (II), ethyl-, ion (6 CI)
22869-52-6
G-83-Mg
MW 215.63

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6571 Blood, cells		GC-EC	a) 29 b) 29	a) 0-56 ug/g b) 0-56 ug/g	a) 3.0 ±or- 2.1 ug/g b) 3.9 ±or- 3.0 ug/g	a) Maternal samples b) Fetal samples c) correlation (p < 0.01) between a) and b) b) significantly higher than a). Isogenic Hg levels similar for a) (22.5 ±or- 1.6 ug/g) but significantly lower for b) (1.4 ±or- 1.2 ug/g) Patients residing in or near Cleveland, OH	Fahnestock, P.H. Fahnestock, B.R. Edwards, P. 1981 American Journal of Obstetrics and Gynecology 139:209-213
6572 Blood, cells		GC	a) 29 b) 29	a) Not given b) Not given	a) 3.0 ±or- 2.1 ug/g b) 3.9 ±or- 3.0 ug/g	OHIO: ADULTS; NEWBORN; BLOOD PLASMA; ERYTHROCYTES; PLACENTA; COMPARATIVE EVALUATIONS; MERCURY INORGANIC COMPOUNDS; MERCURY ORGANIC COMPOUNDS; PRENATAL; MERCURY a) Maternal erythrocytes b) Fetal erythrocytes c) significantly higher than a) Patients in active labor, Cleveland, OH PREGNANT; MERCURY; MERCURY INORGANIC COMPOUNDS; MERCURY ORGANIC COMPOUNDS; PLACENTA; OHIO; PHOS; ERYTHROCYTES	Fahnestock, P.H. Fahnestock, B.R. Edwards, P. Prochaska, A.L. 1980 Proceedings, University of Missouri Annual Conference on Trace Substances in Environmental Health 14:162-168

(NEXT PAGE)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6573 Blood, plasma		GC-EC	25	a) Not given b) Not given	a) 0.4 $\pm$ 0.2 ng/g b) 0.4 $\pm$ 0.3 ng/g	a) Maternal samples b) Fetal samples In both samples, significantly higher (1.7 and 2.6 ng/g, respectively) for both a) and b) Patients residing in or near Cleveland, OH OHIO; ADULTS; NEWBORN; BLOOD PLASMA; FETUS; PLACENTA; COMPARATIVE EVALUATIONS; MERCURY INORGANIC COMPOUNDS; MERCURY ORGANIC COMPOUNDS; MERCURY METALS; PREGNANT; MERCURY	Kuhert, P.M. Kuhert, B.B. Erhard, P. 1981 American Journal of Obstetrics and Gynecology 139:209-213
6574 Placenta		GC-EC	28	Not given	1.4 $\pm$ 0.3 ng/g	Significant correlation with maternal and cord red blood cell levels of organic Hg, but not with maternal or fetal plasma levels Placental inorganic Hg level ($\bar{x}$ = 3.2 ng/g) significantly higher ($p < 0.001$) Patients residing in or near Cleveland, OH OHIO; ADULTS; NEWBORN; BLOOD PLASMA; FETUS; PLACENTA; COMPARATIVE EVALUATIONS; MERCURY INORGANIC COMPOUNDS; MERCURY ORGANIC COMPOUNDS; MERCURY METALS; PREGNANT; MERCURY	Kuhert, P.M. Kuhert, B.B. Erhard, P. 1981 American Journal of Obstetrics and Gynecology 139:209-213
6575 Placenta		GC	24	Not given	1.4 $\pm$ 0.3 ng/g	Significantly lower than inorganic mercury (5.3 $\pm$ 3.2 ng/g) Patients residing in Cleveland, OH PREGNANT; MERCURY INORGANIC COMPOUNDS; MERCURY METALS; BLOOD; PLACENTA; OHIO; FETUS; ERYTHROCYTES	Kuhert, P.M. Kuhert, B.B. Erhard, P. Prochaska, A.L. 1980 Proceedings, University of Missouri Annual Conference on Trace Substances in Human Health 18:182-188

Mentylene (6 CI)
Isonene, 1,3,5-triethyl- (9 CI)
108-67-8
C-12
MW 120.2, BP -88.8 C, BP 168.7 C, VP 10 mm Hg at 87.4 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6576 Breath		GC/MS	28	0.7-4 ng/l	1.7 ng/l	Estimated from graph Healthy 18-60 yr olds, non smokers. Solid protocol 18 days before and during study to minimize water and amount of exogenous constituents. ADULTS; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENE	Prokopynski, B. Gabriel, G. C. Meili, R. C. Meili, R. 1977 Journal of Chromatographic Science 15:239-248

Methane, dichloro-

75-09-2

C-82-CL2

MS 86.94, BP -85.1 C, BP 39.75 C, VP 300 mm Hg at 22 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6577 Blood	Inhalation	GC	a) 1 b) 1 c) 1 d) 1	a) 2-0-12 mg/l b) 0.8-0.03 mg/l c) 1.7-0.1 mg/l d) 0.8-0.32 mg/l	a) Not given b) Not given c) Not given d) Not given	a) Smoker, 3 hr after start of exposure and 6 hr postexposure. Set intensity of COHb 3.0% after 7 1/2 hr of exposure. b) Nonsmoker, 8 hr after start of exposure and 16 hr postexposure. c) Volunteer, exercising at work intensity of 28 ml O ₂ /min/kg, 8 hr after start of exposure and 16 hr postexposure. d) Volunteer, sedentary, 8 hr after start of exposure and 7 hr postexposure. e) Volunteer, sedentary, 8 hr after start of exposure and 100 ppm COHb for 16 hr. f) Estimated from graphs. Data also for other studies. 23-27 yr olds CARBON MONOXIDE; BLOOD; URINE; SWEAT; CHLORINATED HYDROCARBONS	Diviacco, G.D. Kaplan, C.J. Toxicology and Applied Pharmacology 59:141-148
6578 Blood	Inhalation	GC/MS	18	a) 270-520 ppb b) 270-560 ppb c) Not given	a) 170 ppb b) 414 ppb c) < 100 ppb	a) Painters, nonsmokers. Mean baseline COHb of 2% with maximal increase of 4% during test. b) Painters, smokers. Mean baseline COHb of 6.1% with various increase of 2-5% during test. c) Controls, below detection limit. Mean baseline COHb of 2 smokers 5.6% with various increase of 1-5% during test. Nonsmokers baseline similar to smokers. d) Mean baseline chloride exposure in 26 min, 470 ppm. Urine excretion contained 297 hr wt. Slashed below use of spray paint in exposure chamber. 23-49 yr olds BLOOD; ADULTS; CHLORINATED HYDROCARBONS; PAINTS; SMOKE; THERMOCO	Stevens, R.F. Casper, G.L. Chenoweth, R.B. Clinical Toxicology 12(5):551-561
6579 Breath	Inhalation		a) 1 b) 1 c) 1 d) 1	a) 70-0-4 ppm b) 40-0 ppm c) 40-0 ppm d) 40-0 ppm	a) Not given b) Not given c) Not given d) Not given	a) Smoker, 8 hr after start of exposure and 6 hr postexposure. b) Nonsmoker, 8 hr after start of exposure and 16 hr postexposure. c) Volunteer, exercising at work intensity of 28 ml O ₂ /min/kg, 8 hr after start of exposure and 16 hr postexposure. Set excretion of CO 14.34 mg/min. d) Volunteer, sedentary, 8 hr after start of exposure and 7 hr postexposure. Set excretion of CO 2.66 mg/min. e) 8 hr exposure to 100 ppm. Estimated from graphs. f) Conversion to CO 26% in c) and 40% in d). Data also for other studies. 23-27 yr olds CARBON MONOXIDE; BLOOD; URINE; SWEAT; CHLORINATED HYDROCARBONS	Diviacco, G.D. Kaplan, C.J. Toxicology and Applied Pharmacology 59:141-148

(SEE PAGE)

Methane, dichloro-

75-09-2

C-8-CL2

BP 94.5°C, BP -95.1°C, BP 39.75°C, VP 340 mm Hg at 22°C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6560 Nails		GC	48 34	a) 102-318 ug/day b) 138-242 ug/day	a) Not given b) Not given	a) Exercising and sedentary volunteers b) Smokers No apparent correlation with work intensity or smoking 2-37 yr olds CARBON MONOXIDE: BLOOD; URINE; BREATH; CHLORINATED HYDROCARBONS	Diriaceo, G. B. Kaplan, C. J. Toxicology and Applied Pharmacology 58:141-148

Methane, dichlorodifluoro-

75-71-8

C-CL2-F2

BP 126.52°C, BP -158°C, BP -29°C, VP 5 atm at 16.1°C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6581 Blood	Inhalation	GC	6	a) 0-2.3 ug/ml b) 0.2-3.13 ug/ml	a) Not given b) Not given	a) 1 inhalation b) 2 inhalations Range of peak values 10-20 sec after using Ventolin aerosol inhaler 31-66 yr old patients with asthma or chronic bronchitis BLOOD: DRUG THERAPY; PLASMA COMPOUNDS; INHALATION	Sollery, C. T. Williams, P. R. Draffan, G. N. Wise, S. Sahyoun, R. Petersen, J. A. Walker, J. B. Clinical Pharmacology and Therapeutics 15(1):59-66

Methane, dichlorometho-

719-89-3

C-8-CL2-H-02

BP 129.93°C, BP 107°C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6582 Breath		GC/MS	28	2-17 ug/l	5.5 ug/l	Estimated from graph Healthy 16-60 yr olds, nonsmokers. Rapid excretion 4 days before and during steady state alveolar number and amount of exhaled constituents. ADULTS; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROFERES	Kotomiyoshi, R. Gabriel, G. O'Malley, R. Cassidy, R. P. A. Journal of Neurotoxicologic Science 15:239-244

Methane, trichlorofluoro-

75-35-1
C-03-7
MW 137.38, BP -111 C, MP 23.7 C at 760 mm Hg, 6.8 C at 400 mm Hg, -9.1 C at 200 mm Hg, -23.0 C at 100 mm Hg, -32.3 C at 60 mm Hg, -39.0 C at 40 mm Hg, -49.7 C at 20 mm Hg, -59.0 C at 10 mm Hg, -67.6 C at 5 mm Hg, -82.3 C at 1.0 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6583 Blood	Inhalation	GC	8	a) 0.26-2.0 ug/al b) 0.53-3.1 ug/al	a) Not given b) Not given	a) 1 inhalation b) 2 inhalations 10 sec apart Range of peak values 10-20 sec after using Ventolin aerosol inhaler 31-66 yr old patients with asthma or chronic bronchitis BLOOD; DRUG THERAPY; FLUORINE COMPOUNDS; INHALATION	Bellery, C.T. Williams, F.H. Draffan, G.H. Wine, S. Sahyoun, H. Paterson, J.R. Walker, J.R. 1978 Clinical Pharmacology and Therapeutics 15(1):59-66

Methanesulfonic acid, sodium salt (8 CI)

2569-24-0
C-H5-As-03-r-Ra
MW 189, BP 113-116 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6584 Urine	Ingestion	AMS	4	Not given	391.7 ug	0-96 hr, total output after 500 ug dose. 0% inorganic arsenic, 87.4% dimethylarsinate, and 12.6% diethylarsinate. Data corrected for basal excretion rate of 7.1 ug/24 hr Healthy 27-42 yr olds ADULTS; URINE; COMPARATIVE EVALUATIONS; ARSENIC; ARSENIC ORGANIC COMPOUNDS; METABOLITES	Buckel, J.P. Lauwerys, R. Roels, R. 1981 International Archives of Occupational and Environmental Health 48:71-79

Methanol

67-56-1
C-H8-O
MW 32.04, BP -97.8 C, MP -94.7 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6585 Breath		GC/MS	28	0.10-0.21 ug/l	0.15 ug/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotenyanski, R. Gehring, G. O'Neill, R. Clandio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUBSET OF CASES	RANGE	READ	GENERAL INFORMATION	REFERENCE
6586 Breath		GC/MS	20	0.7-5 ng/L	2 ng/L	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents.	Photopantili, B. Gabriel, G. O'Neill, M. Clandino, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

ethyl-4-heptanone (No postage in CHEMLINE).
C8-H16-O
MW 128.21

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6587 breath		GC/MS	20	0.6-8 ng/L	2.1 ng/L	Estimated from graph Healthy 16-60 yr olds, non smokers. Rigid protocol 14 days before and during study to minimize number and ascert of exogenous constituents.	Yokoyama, B. Gutheil, C. O'Neill, R. Civelli, R. P.A. 1975 Journal of Chromatographic Science 15:239-248

Mclyden
7439-98-7
Mc

NEW 95.04, MP 2622 C, BP 4825 C (APPROX), VP 1 mm Hg at 3300 C, 10 mm Hg at 3770 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	DOSAGE	GENERAL INFORMATION	REFERENCE
659a Adrenal gland		ES	7	Not given	0.30 mg- 0.09 ppm dry wt	Normal tissue Atrophies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; UTERUS; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TANTALUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; FEATHERS; HAZARDS; OCCUPATIONAL DISEASES; TOXICOLOGY; X-RAYS.	Tsuruta, R. 1991 Archives of Environmental Health 36(4):155-165

(WRITE PAGE)

7439-96-7
at 95-96. IR 2622 C. mp 6025 C (approx). VP 1 mm Hg at 3300 C. 10 mm Hg at 3770 C (CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	SEAN	GENERAL INFORMATION	REFERENCE
6589 Aorta		ES	7	Not given	<0.2 ppm dry wt	Normal tissues Atherosclerosis Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; PANCREAS; SPLEEN; THYROID; STOMACH; SALIVARY GLANDS; TRACHEA; ALVEOLI; BLADDER; CERVIX; UTERUS; CHROMIUM; COBALT; COPPER; IRON; LEAD; NICKEL; SODIUM; SILICON; ZINC; POLYMERIZATION; MERCURY; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; NICKEL; CHROMIUM; LEAD	Tsushima, E. 1981 Archives of Environmental Health 36 (4): 155-165 Archives of Environmental Health 36 (4): 155-165
6590 Bone		ES	5	Not given	<0.0 ppm dry wt	Normal tissues Atherosclerosis Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; PANCREAS; SPLEEN; THYROID; STOMACH; SALIVARY GLANDS; TRACHEA; ALVEOLI; BLADDER; CERVIX; UTERUS; CHROMIUM; COBALT; COPPER; IRON; LEAD; NICKEL; SODIUM; SILICON; ZINC; POLYMERIZATION; MERCURY; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; NICKEL; CHROMIUM; LEAD	Tsushima, E. 1981 Archives of Environmental Health 36 (4): 155-165
6591 Hair		HA	56	0.05-0.16 ug/g	Not given	Range of means, estimated from graph Aster, El Khayma, Assuit, Cairo, and Alexandria, Egypt EGYPT: HAIR: NAILS: AMYGDALAE; CERVIX; CHROMIUM; COBALT; IRON; NICKEL; SODIUM; SILICON; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; NICKEL; CHROMIUM; LEAD	Kamperel, R. 1982 Environ. G.V. Poland, L.E. Nash, J.E. Nash, J.E. Nash, J.E. 1982 Science of the Total Environment 21:149-166

(CITY PAGE)

Polychlorinated
Biphenyls
PCBs

At 95.9%, BP 2022 C, BP 4025 C (approx), VP 1 mg/kg at 1300 C, 10 mg/kg at 1770 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6592 Heart	ES		a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) 0.2-0.2 ppm c) 0.2-0.2 ppm d) Not applicable e) Not applicable Dry wt	a) <0.2 ppm b) <0.2 ppm c) <0.2 ppm d) <0.2 ppm e) <0.2 ppm Dry wt	a) Normal healthy men b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; ADIPOSE TISSUE; HEART; LIVER; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYMUS; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHLORINE; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; ZINC; ZINC TONGUE; ZINC TONGUE; ZINC	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6593 Intestine	ES		10	Not given	<0.2 ppm dry wt	Normal tissues Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; ADIPOSE TISSUE; HEART; LIVER; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYMUS; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHLORINE; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; ZINC; ZINC TONGUE; ZINC TONGUE; ZINC	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6594 Kidney	ES		a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) 0.2-0.2 ppm c) 0.2-0.2 ppm d) Not applicable e) Not applicable Dry wt	a) 0.5% for- 0.15 ppm b) Not given c) 0.33 ppm d) <0.2 ppm e) <0.2 ppm Dry wt	a) Normal healthy men b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; ADIPOSE TISSUE; HEART; LIVER; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYMUS; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHLORINE; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; ZINC; ZINC TONGUE; ZINC TONGUE; ZINC	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

Molybdenum
7439-98-7

at 95.3g, BP 2622 C, BP 4825 C (approx), VP 1 mm Hg at 3303 C, 10 mm Hg at 3770 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	SEAL	GENERAL INFORMATION	REFERENCE
6595 Liver		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) 1.3-1.4 ppm c) 0.60-1.1 ppm d) Not applicable e) Not applicable Dry wt	a) 1.5 sec- 0.59 ppm b) 1-4 ppm c) 0.93 ppm d) 0.78 ppm e) 0.55 ppm Dry wt	a) Normal healthy sea b) Chromate refining workers c) Chromate refining workers d) Airplane painter e) Stone sealer Atopias Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; KIDNEY; SPLEEN; LIVER; PANCREAS; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOSU; SINCORIUM; ELEMENTS	Tateoka, H. Archives of Environmental Health 36(4):155-165
6596 Liver		MA	30	0.4-1.6 ug/g Not wt	Not given	Category 1 (first priority element) as proposed by International Workshop on Monitoring Environmental Materials and Specimen Banking Atopias, Baltimore, MD, Minneapolis, MN, and Seattle, WA MAYLAND: MINNESOTA: WASHINGTON; AUTOPSIES: LIVER; MANGANESE; RADIUM; CADMIUM; CHROMIUM; COBALT; COPPER; FLUORINE; IRON; LEAD; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; SODIUM; SILVER; STRONTIUM; THALLIUM; TITANIUM; VANADIUM; ZINC; POPULATION EXPOSURE	Harrison, S.H. Seisler, B. Wine, S.A. 1981 EPA 600/3-81-025, 6 pp.
6597 Lung		ES	a) 12 b) 2 c) 3 d) 1 e) 1	a) Not given b) <0.2-0.82 ppm c) <0.2-2.2 ppm d) Not applicable e) Not applicable Dry wt	a) <0.2 ppm b) Not given c) Not given d) <0.2 ppm e) <0.2 ppm Dry wt	a) Normal healthy sea b) Chromate refining workers c) Chromate refining workers d) Airplane painter e) Stone sealer Atopias Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; KIDNEY; SPLEEN; LIVER; PANCREAS; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOSU; SINCORIUM; ELEMENTS	Tateoka, H. Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

polydoses
7439-10-7

REV 95-99, EP 2622 C, EP 4025 C (approx), EP 1 na Hg at 3100 C, 10 na Hg at 3770 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	SEAR	GENERAL INFORMATION	REFERENCE
6603 Spleen		ES	41 14 13 14 1	a) Not given b) <0.2-1.2 ppm c) <0.2-0.26 ppm d) Not applicable e) Not applicable dry wt	a) <0.2 ppm b) Not given c) Not given d) <0.2 ppm e) <0.2 ppm dry wt	a) Normal healthy sea b) Chronic plating workers c) Chronic reviving workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; BOWEL; SPLEEN; LIVER; LUNGS; TESTES; PANCREAS; SPLEEN; LYMPH NODES; THYROID GLANDS; TRACHEA; ALVEOLI; BILIARY; CALCIUM; CHOLESTEROL; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; ZINCALCOXIDE; HEALTH RECORDS; OCCUPATIONAL RECORDS; YOUNG; ZINCURIN; ELEMENTS	Terada, H. 1961 Archives of Environmental Health 36(4):155-165
6602 Stomach		ES	10	Not given	<0.2 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; BOWEL; SPLEEN; LIVER; LUNGS; TESTES; PANCREAS; SPLEEN; LYMPH NODES; THYROID GLANDS; TRACHEA; ALVEOLI; BILIARY; CALCIUM; CHOLESTEROL; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; ZINCALCOXIDE; HEALTH RECORDS; OCCUPATIONAL RECORDS; YOUNG; ZINCURIN; ELEMENTS	Terada, H. 1961 Archives of Environmental Health 36(4):155-165
6603 Thyroid gland		ES	8	Not given	<0.2 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; BOWEL; SPLEEN; LIVER; LUNGS; TESTES; PANCREAS; SPLEEN; LYMPH NODES; THYROID GLANDS; TRACHEA; ALVEOLI; BILIARY; CALCIUM; CHOLESTEROL; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; ZINCALCOXIDE; HEALTH RECORDS; OCCUPATIONAL RECORDS; YOUNG; ZINCURIN; ELEMENTS	Terada, H. 1961 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

Polychlorinated
7439-98-7

At 95.9%, BP 2622 C, BP 8025 C (approx), VP 1 mm Hg at 3300 C, 10 mm Hg at 3770 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6604 Tongue		MS	2	Not given	<0.2 ppm dry wt	Human tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYROID; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZIRCONIUM; ELEMENTS	Teraoka, R. 1981 Archives of Environmental Health 36(4):155-165
6605 Trachea		MS	2	Not given	<0.2 ppm dry wt	Human tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LUNGS; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYROID; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZIRCONIUM; ELEMENTS	Teraoka, R. 1981 Archives of Environmental Health 36(4):155-165

Naphthalene
91-20-3

C10-H8
MW 128.16, BP 80.1 C, BP 217.9 C, VP 1 mm Hg at 52.6 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6606 Breath		GC/MS	20	0.4-2.5 µg/l	0.9 µg/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Piglet protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Prokopych, R. Gabriel, G. O'Neill, R. Clandio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

Naphthalene, methyl-
1221-98-8
C11-H10
MW 142, BP -22 C, BP 248.6 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6607 Breath		GC/MS	20	0.08-0.75 ug/l	0.23 ug/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Field protocol is 4 hr before and during study to minimize ambient and amount of exogenous constituents. ACUTLS: SPIRITS; ALCOHOLS; CHELORISE ORGANIC COMPOUNDS; CHELORISERS	Kotoszyski, B. Gabriel, G. O'Neill, H. 1970, H.P.A. Journal of Chromatographic Science 15:239-246

Nickel
7440-02-0
MW

ACR 58.7%, BP 1455 C, VP 10 mm Hg at 2050 C, 100 mm Hg at 2370 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6608 Adrenal gland		ES	7	Not given	0.66 μ g- 0.16 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TANTALUM; TUNGSTEN; ZINC; BIOACCUMULATION; METALS; HAZARDS; OCCUPATIONAL HAZARDS; TONGUES; XIRCONIUM; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6609 Aorta		ES	7	Not given	0.50 μ g- 0.20 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TANTALUM; TUNGSTEN; ZINC; BIOACCUMULATION; METALS; HAZARDS; OCCUPATIONAL HAZARDS; TONGUES; XIRCONIUM; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

MP 59.71, BP 1055 C, VP 10 mm Hg at 2030 C, 100 mm Hg at 2370 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUBJECT OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6610 Bone		ES	5	Bst given	<8.0 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; CADMIUM; COPPER; IRON; LEAD; CHROMIUM; COBALT; ZINC; SODIUM; POTASSIUM; MANGANESE; METALS; POLYMER: NICKEL; PHOSPHORUS; FOTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXIC; ZINCION; ELEMENTS	Teraoka, E. 1981 Archives of Environmental Health 36(4):155-165
6611 Heart		ES	a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) 0.71-1.1 ppm c) 0.27-12 ppm d) Not applicable e) Not applicable Dry wt	a) 0.43 sec- 0.23 ppm b) 0.70 ppm c) 0.92 ppm d) 0.92 ppm e) 0.29 ppm Dry wt	a) Normal healthy sea b) Chronic plating workers c) Chronic refinishing workers d) Shipplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; STOMACH; PANCREAS; SPLEEN; THYROID GLANDS; TRACHEA; ALUMINUM; CADMIUM; COPPER; IRON; LEAD; CHROMIUM; COBALT; ZINC; SODIUM; POTASSIUM; MANGANESE; METALS; POLYMER: NICKEL; PHOSPHORUS; FOTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXIC; ZINCION; ELEMENTS	Teraoka, E. 1981 Archives of Environmental Health 36(4):155-165
6612 Intestine		ES	10	Bst given	0.51 sec- 0.18 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; STOMACH; PANCREAS; SPLEEN; THYROID GLANDS; TRACHEA; ALUMINUM; CADMIUM; COPPER; IRON; LEAD; CHROMIUM; COBALT; ZINC; SODIUM; POTASSIUM; MANGANESE; METALS; POLYMER: NICKEL; PHOSPHORUS; FOTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXIC; ZINCION; ELEMENTS	Teraoka, E. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

at 58.71, mp 165.5 C, bp 2637 C, vp 10 mm Hg at 2090 C, 160 mm Hg at 2370 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	MEAN	GENERAL INFORMATION	REFERENCE
6616 Lung		ES	a) 12 b) 2 c) 3 d) 1 e) 1 f) 1	a) Not given b) 1.0-4.5 ppm c) 1.0-4.5 ppm d) Not applicable e) Not applicable f) Not applicable Dry wt	a) 0.73 + or - 0.33 ppm b) 4.3 ppm c) 4.2 ppm d) 2.6 ppm e) 1.0 ppm Dry wt	a) Normal healthy men b) Chronic refining workers c) Chronic refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TANTALUM; TITANIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINCORNIUM; ELEMENTS	Tsutsuka, H. 1981 Archives of Environmental Health 36(4): 155-165
6617 Lymph node		ES	a) 3 b) 1 c) 3 d) 1 e) 1	a) Not given b) Not applicable c) Not applicable d) Not applicable e) Not applicable Dry wt	a) 3.7 + or - 3.4 ppm b) 7.0 ppm c) 8.1 ppm d) 4.7 ppm e) 1.7 ppm Dry wt	a) Normal healthy men b) Chronic refining worker c) Chronic refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TANTALUM; TITANIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINCORNIUM; ELEMENTS	Tsutsuka, H. 1981 Archives of Environmental Health 36(4): 155-165
6618 Pancreas		ES	5	Not given	0.27 + or - 0.07 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TANTALUM; TITANIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINCORNIUM; ELEMENTS	Tsutsuka, H. 1981 Archives of Environmental Health 36(4): 155-165

 (NEXT PAGE)

Nickel
7440-02-0
#1

atw 56.71, RP 1455 C, RP 2637 C, VP 10 mm Hg at 2000 C, 100 mm Hg at 2170 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6619 Spleen		MS	a) 9 b) 2 c) 1 d) 1 e) 1	a) Not given b) 0.20-2.5 ppm c) 0.20-36 ppm d) Not applicable e) Not applicable dry wt	a) 0.42 *or- 0.24 ppm b) 1.4 ppm c) 11.5 ppm d) 2.0 ppm e) 0.55 ppm dry wt	a) Normal healthy men b) Chromium plating workers c) Chromeate refinishing workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STROTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ZINC; ZINC	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6620 Stomach		MS	10	Not given	0.51 *or- 0.16 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STROTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ZINC; ZINC	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6621 Thyroid gland		MS	4	Not given	0.43 *or- 0.27 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STROTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ZINC; ZINC	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

Nickel
7460-02-0
NI

Rev 58-71, NP 1455 C, BP 2637 C, RP 10 mm Hg at 2090 C, 100 mm Hg at 2370 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6622 Tongue		ES	2	Not given	0.40 $\pm$ or - 0.02 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; SPLEEN; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOBACCO; ZINC; ZINC; ELEMENTS	Tateoka, H. 1961 Archives of Environmental Health 36(4):155-165
6623 Trachea		ES	2	Not given	0.39 $\pm$ or - 0.21 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; SPLEEN; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOBACCO; ZINC; ZINC; ELEMENTS	Tateoka, H. 1961 Archives of Environmental Health 36(4):155-165
6624 Urine	Inhalation		13	a) 1-6 ug/l b) 1-6 ug/l c) 1-5 ug/l d) 1-18 ug/l e) 1-11 ug/l f) 2-9 ug/l g) 2-10 ug/l h) 2-16 ug/l i) 1-16 ug/l	a) 2.5 $\pm$ or - 2.2 ug/l b) 2.2 $\pm$ or - 1.9 ug/l c) 2.0 $\pm$ or - 2.0 ug/l d) 3.8 $\pm$ or - 3.1 ug/l e) 3.0 $\pm$ or - 2.5 ug/l f) 4.3 $\pm$ or - 2.9 ug/l g) 3.2 $\pm$ or - 1.9 ug/l h) 6.4 $\pm$ or - 1.9 ug/l i) 3.3 $\pm$ or - 2.2 ug/l Jometric	a) 10% or less of work time during previous 10 yr spent in manual metal welding (MMA), nonsmokers b) Same as a), smokers c) 11-49% MMA welders, nonsmokers d) Same as c), smokers e) 50-99% MMA welders, nonsmokers f) Same as e), smokers g) > 90% MMA welders, nonsmokers h) Same as g), smokers i) All samples No correlation with exposure level Stainless steel welders, Finland FINLAND: BRIEF; CHROMIUM; METALS; NICKEL; PARS; INDUSTRIAL HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; SMOKING	Kallio, P.-L. 1961 Archives of Environmental Health 36(4):155-165

Nicotine (8 CI)
 Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)- (9 CI)
 54-11-5
 C10-H14-N2
 MW 162.23, BP < -80 C, SP 247 C (partial decoup) at 745 mm Hg, 123-125 C at 17 mm Hg, VP 1 mm Hg at 61.8 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6625 Urine	Inhalation Dermal	RIA	42	a) 0-41 ug/100 ug creatinine b) 2.6-293 ug/100 ug creatinine c) 3-67 ug/100 ug creatinine d) 0-102 ug/100 ug creatinine e) 0-12.8 ug/100 ug creatinine f) 0-45 ug/100 ug creatinine g) Not given h) 0-6.4 ug/100 ug creatinine	a) 8.4 ug/100 ug creatinine b) 89.0 ug/100 ug creatinine c) 12.7 ug/100 ug creatinine d) 22.5 ug/100 ug creatinine e) 21.6 ug/100 ug creatinine f) 11.4 ug/100 ug creatinine g) 15 ug/100 ug creatinine h) 3.2 ug/100 ug creatinine	a) 16 tobacco pickers, pre-exposure b) 16 tobacco pickers, morning after 8 hr harvest exposure c) 10 tobacco stringers, pre-exposure d) 10 tobacco stringers, morning after 8 hr harvest exposure e) 6 tractor drivers, pre-exposure f) 6 tractor drivers, morning after 8 hr harvest exposure g) 4 novice smokers, morning after 8 hr harvest exposure h) 3 cigarette smokers containing 1.3 mg nicotine each during 30 min, estimated from graph b) 6 non-exposed controls Measured as cotinine, metabolite	Gohlback, S.H. Perry, L.D. Williams, W.A. Freeman, J.I. 1975 Lancet 1(7905):478-480

Nicotine
 111-84-2
 C9-H20
 MW 128.25, BP -53.7 C, SP 150.7 C, VP 10 mm Hg at 38.0 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6626 Breath		GC/MS	28	0.27-2.4 ug/l	0.8 ug/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers, rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents.	Krotoszynski, B. Gohill, C. O'Neill, R. Claudio, E.P.A. 1977 Journal of Chromatographic Science 15:239-244

o-Tolene (8 CI)
 Benzene, 1,2-dimethyl- (9 CI)
 95-47-6
 C8-H10
 MW 106.16, BP -25 C, SP 164 C, VP 10 mm Hg at 32.1 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6627 Breath		GC/MS	48	0.37-3.4 ug/l	1.1 ug/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers, rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents.	Krotoszynski, B. Gohill, C. O'Neill, R. Claudio, E.P.A. 1977 Journal of Chromatographic Science 15:239-244

CClase
111-65-9
CB-818

NW 118.23, BP 56.8 C, BP 125.8 C, VP 10 mm Hg at 19.2 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6628 Breath		GC/MS	28	0.055-0.49 ng/l	0.16 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rapid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROBENZENES	Krotoszynski, B. Gabriel, G. O'Neill, R. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-246

P-Cresol, 2,6-di-tert-butyl- (8 CI)
Phenol, 2,6-bis[(1,1-dimethylethyl)-4-methyl- (9 CI)
128-37-0
C15-824-0
NW 220.3, BP 70 C, BP 265 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6629 Breath		GC/MS	28	0.11-3.8 ng/l	0.7 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rapid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROBENZENES	Krotoszynski, B. Gabriel, G. O'Neill, R. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-246

P-Cresol-7-ol (8 CI)
Benzeneethanol, 4-(1-methylethyl)- (9 CI)
534-60-7
C10-814-0
NW 150.22, BP 28 C, BP 249 C, VP 1 mm Hg at 74.2 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6630 Breath		GC/MS	28	0.03-0.5 ng/l	0.16 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rapid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROBENZENES	Krotoszynski, B. Gabriel, G. O'Neill, R. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-246

p-Mentha-1,8-diene (8 CI)
Cyclohexene, 1-ethyl-4-(1-methyl-2-propenyl)- (9 CI)
138-86-3
C10-H16
MW 136.23, BP 174.6 C, VP 1 mm Hg at 14.0 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6631 Breath		GC/MS	28	1.1-9 ng/l	3 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROBENZENES	Kotoszynski, B. Gabriel, G. O'Neill, H. Claudio, R.P.A. Journal of Chromatographic Science 15:239-244

p-Tolualdehyde (8 CI)
Benzaldehyde, 4-ethyl- (9 CI)
104-87-0
C8-H8-O
MW 120.16, BP 204-205 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6632 Breath		GC/MS	28	2-35 ng/l	10 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROBENZENES	Kotoszynski, B. Gabriel, G. O'Neill, H. Claudio, R.P.A. Journal of Chromatographic Science 15:239-244

p-Toluene (8 CI)
Benzene, 1,4-diethyl- (9 CI)
106-82-3
C8-H10
MW 106.16, BP 13-14 C, BP 137-138 C, VP 10 mm Hg at 27.3 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6633 Breath		GC/MS	28	1.6-8 ng/l	3.5 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROBENZENES	Kotoszynski, B. Gabriel, G. O'Neill, H. Claudio, R.P.A. Journal of Chromatographic Science 15:239-244

Pentane, 2-methyl-
 106-32-5
 C6-H14
 MW 86.18, BP -153.67 C, BP 58-60 C, VP 100 mm Hg at 8.1 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6634 Urine	Inhalation	GC	81	<0.1-5.15 ug/l	1.28 ug/l	2-methyl-2-pentanol, metabolite of 2-methylpentane. Exposure, 11-250 ug/cu m (mean 77 ug/cu m), commercial hexane Workers in shoe factories. INDUSTRIAL CHEMICALS: ITALY; ADULTS; URINE; INDUSTRIAL AREAS; INHALATION; METABOLITES; OCCUPATIONAL HAZARDS; SOLVENTS	Petbellini, L. Ergonone, P. Fagnolato, G. 1981 British Journal of Industrial Medicine 38:20-26

Pentane, 3-ethyl-
 67-18-7
 C7-H16
 MW 100.21, BP -118.60s C, BP 93.5 C, VP 10 mm Hg at -6.8 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6635 Breath		GC/MS	28	0.12-1.0 ug/l	0.33 ng/L	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS; BP/PATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Kotoszynski, B. Gabel, C. O'Neill, H. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-249

Pentane, 3-ethyl-
 96-14-0
 C6-H14
 MW 86.17, BP 63.3 C, VP 100 mm Hg at 10.5 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6636 Urine	Inhalation	GC	81	<0.1-1.0 ug/l	0.16 ug/l	3-methyl-2-pentanol, metabolite of 3-methylpentane. Exposure, 10-208 ug/cu m (mean 63 ug/cu m), commercial hexane Workers in shoe factories. INDUSTRIAL CHEMICALS: ITALY; ADULTS; URINE; INDUSTRIAL AREAS; INHALATION; METABOLITES; OCCUPATIONAL HAZARDS; SOLVENTS	Petbellini, L. Ergonone, P. Fagnolato, G. 1981 British Journal of Industrial Medicine 38:20-26

Pentaenoic acid, 2-methyl-, ethyl ester
 71-81-0
 C8H16O2
 MW 144.24

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6637 Breath		GC/MS	28	0.03-0.22 ng/l	0.08 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROBENZENES	Krotoszynski, B. Gabriel, G. O'Neill, R. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

Pentyl alcohol (8 CI)
 1-Pentanol (9 CI)
 71-81-0

C5-812-0
 MW 88.1, BP -79 C, SP 137.8 C, VP 1 mm Hg at 13.6 C, 10 mm Hg at 48.9 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6638 Breath		GC/MS	28	0.2-3 ng/l	0.75 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROBENZENES	Krotoszynski, B. Gabriel, G. O'Neill, R. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

Phenol
 108-95-2
 C6H6O
 MW 94.11, BP 40.65 C, BP 182 C, VP 1 mm Hg at 40.1 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6639 Skin	Dermal		12	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 0.391 $\pm$ 0.118 mg b) 0.632 $\pm$ 0.219 mg c) 1.136 $\pm$ 0.350 mg d) 1.48 $\pm$ 0.37 mg e) 2.4 $\pm$ 0.38 mg	a) 7.0% of dose absorbed after 15 min exposure of 2.5 g/l on 15.9 mg cm. Absorption rate 0.098 $\pm$ 0.029 mg/mg cm/hr b) 12.6% of dose absorbed after 30 min exposure as in a). Absorption rate 0.079 $\pm$ 0.026 mg/mg cm/hr c) 22.2% of dose absorbed after 60 min exposure as in a). Absorption rate 0.080 $\pm$ 0.026 mg/mg cm/hr d) 14.4% of dose absorbed after 30 min exposure to 5.0 g/l on 15.9 mg cm. Absorption rate 0.181 $\pm$ 0.047 mg/mg cm/hr e) 12.0% of dose absorbed after 30 min exposure to 10 g/l on 15.9 mg cm. Absorption rate 0.301 $\pm$ 0.048 mg/mg cm/hr 20-42 yr olds URINE: PHENOLS: INDUSTRIAL CHEMICALS: SOLVENTS	Batnowska-Dutkiewicz, B. 1981 International Archives of Occupational and Environmental Health 49:99-104

(NEXT PAGE)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6680 Urine	Dermal	Colorimetry	12	a) 10-15 mg b) 21-30 mg c) 31-42 mg d) 34-56 mg	a) 12 mg b) 25 mg c) 35 mg d) 45 mg	a) 2.5 g/l b) 5.0 g/l c) 7.5 g/l d) 10 g/l In aqueous solution 24 hr output after 30 min whole hand (347-816 mg) exposure at 28 degrees C. Level for b) increased to 35 mg at 35 degrees C. Background level 6.91 $\pm$ 0.23 mg/l Estimated from graph 20-82 yr olds URINE: PHENOLS; INDUSTRIAL CHEMICALS; SCIENTISTS	Baranowska-Butkiewicz, B. 1981 International Archives of Occupational and Environmental Health 49:99-104
6681 Urine			639	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given l) Not given m) Not given n) Not given o) Not given p) Not given q) Not given r) Not given s) Not given t) Not given u) Not given v) Not given w) Not given x) Not given	a) 10.54 $\pm$ 0.68 b) 8.09 $\pm$ 0.68 c) 9.61 $\pm$ 0.68 d) 9.93 $\pm$ 0.68 e) 10.46 $\pm$ 0.68 f) 10.29 $\pm$ 0.68 g) 7.32 $\pm$ 0.68 h) 8.73 $\pm$ 0.68 i) 7.95 $\pm$ 0.68 j) 8.97 $\pm$ 0.68 k) 11.26 $\pm$ 0.68 l) 10.21 $\pm$ 0.68 m) 7.85 $\pm$ 0.68 n) 11.88 $\pm$ 0.68 o) 9.92 $\pm$ 0.68 p) 7.67 $\pm$ 0.68 q) 8.52 $\pm$ 0.68 r) 8.15 $\pm$ 0.68 s) 6.74 $\pm$ 0.68 t) 6.49 $\pm$ 0.68 u) 6.61 $\pm$ 0.68 v) 8.09 $\pm$ 0.68 w) 9.02 $\pm$ 0.68 x) 8.60 $\pm$ 0.68	a) 38 men b) 30 women c) Combined a) and b) d) 21 men e) 39 women f) Combined d) and e) g) 38 men h) 31 women i) Combined g) and h) j) 35 men k) 41 women l) Combined j) and k) m) 38 men n) 38 women o) Combined a) and m) p) 36 men q) 48 women r) Combined p) and q) s) 84 men t) 92 women u) Combined s) and t) v) 290 men, total w) 139 women, total x) 639 men and women, total a) - i) in industrial area, a) - i) in plants, steel works from coke ovens, steel works from steel rolling mills. j) - o) in areas with from automotive traffic and from heating systems. p) - r) in areas with emissions only from home heating systems. s) - u) in nonindustrial area 24 hr excretions 60-65 yr old residents of Ruhr area, Germany Lower thrombocyte and leucocyte values, trend to lower erythrocyte values (females) and to higher erythrocyte hemoglobin values in the industrial areas indicate a pancytopenic effect on bone marrow. GERMANY: URINE: PHENOLS; INDUSTRIAL AREAS: INDUSTRIAL EMISSIONS: POPULATION EXPOSURE; URBAN AREAS	Zikmann, T. Stinner, D. 1981 Zentralblatt fuer Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene, Abteilung Bakteriologie, Seite B 174:57-76

Phenol, Pentachloro-
87-86-5
CE-N-CL3-O
BP 266.35, BP 190-191 C, BP 309-310 C (decomp), VP 40 mm Hg at 211.2 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6642 Adipose		GC	21	Not given	16.48 ng/g	5 and 95 percentiles, 10.00 and 22.45 ng/g. Median 12.67 ng/g. Autopsy data Northern Bavaria GERMANY: AUTOPSIES; ADIPOSE TISSUE; BLOOD; BRAIN; KIDNEYS; LIVER; SPLEEN; URINE; PENTACHLOROPHENOL	Gries, H.-G. Schellens, B. Schaller, K.-H. Gossler, K. 1981 Zentralblatt fuer Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene, Abteilung 1. Originale, Reihe B 174: 77-90
6643 Blood		GC	21	5-69 ng/ml	26.03 ng/ml	Detection limit 5 ng/ml Autopsy data Northern Bavaria GERMANY: AUTOPSIES; ADIPOSE TISSUE; BLOOD; BRAIN; KIDNEYS; LIVER; SPLEEN; URINE; PENTACHLOROPHENOL	Gries, H.-G. Schellens, B. Schaller, K.-H. Gossler, K. 1981 Zentralblatt fuer Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene, Abteilung 1. Originale, Reihe B 174: 77-90
6644 Brain		GC	21	Not given	49.14 ng/g	5 and 95 percentiles 19.00 and 72.45 ng/g. Median 47.00 ng/g. Autopsy data. Northern Bavaria GERMANY: AUTOPSIES; ADIPOSE TISSUE; BLOOD; BRAIN; KIDNEYS; LIVER; SPLEEN; URINE; PENTACHLOROPHENOL	Gries, H.-G. Schellens, B. Schaller, K.-H. Gossler, K. 1981 Zentralblatt fuer Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene, Abteilung 1. Originale, Reihe B 174: 77-90
6645 Kidney		GC	21	Not given	64.14 ng/g	5 and 95 percentiles, 24.00 and 94.95 ng/g. Median 43.00 ng/g. Autopsy data. Northern Bavaria GERMANY: AUTOPSIES; ADIPOSE TISSUE; BLOOD; BRAIN; KIDNEYS; LIVER; SPLEEN; URINE; PENTACHLOROPHENOL	Gries, H.-G. Schellens, B. Schaller, K.-H. Gossler, K. 1981 Zentralblatt fuer Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene, Abteilung 1. Originale, Reihe B 174: 77-90
6646 Liver		GC	21	Not given	86.0 ng/g	5 and 95 percentiles 17.00 and 173.45 ng/g. Median 67.00 ng/g. Autopsy data Northern Bavaria GERMANY: AUTOPSIES; ADIPOSE TISSUE; BLOOD; BRAIN; KIDNEYS; LIVER; SPLEEN; URINE; PENTACHLOROPHENOL	Gries, H.-G. Schellens, B. Schaller, K.-H. Gossler, K. 1981 Zentralblatt fuer Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene, Abteilung 1. Originale, Reihe B 174: 77-90

(CONT PAGE)

Phenol, pentachloro-
87-86-5
C6-B-C15-0
NW 266-35, NP 190-191 C, BP 309-310 C (decomp), VP 40 mg at 211.2 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6687 Spleen		GC	21	Not given	20.76 ug/g	5 and 95 percentiles 7.00 and 32.45 ug/g. Median 19.00 ug/g. Autopsy data. Northern Bavaria GERMANY: AUTOPSIES: ADIPOSE TISSUE; BLOOD; BRAIN; KIDNEYS; LIVER; SPLEEN; URINE; PENTACHLOROPHENOL	Grims, R.-G. Schellmann, B. Schaller, K.-H. Gossler, K. 1981 Zentralblatt fuer Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene, Abteilung 1. Originale, Reihe B 174: 77-90
6688 Urine				a) 150-2700 ug/g creatinine b) 21-160 ug/g creatinine c) 340-3400 ppb d) 32-400 ppb e) 0-34 ppb	a) 760 ug/3 creatinine b) 83 ug/g creatinine c) 1200 ppb d) 150 ppb e) Not given	a) Occupational exposure b) Wages: occupational exposure c) Same as b) d) Same as b) e) Controls No correlation with exposure time or age PCP factory workers URINE: MEASUREMENT METHODS: CHLORINE CHEMICAL COMPOUNDS: PENTACHLOROPHENOL; PESTICIDES: PESTICIDE RESIDUES	Sigurd, K.E.P.B. Fenicola, M.A.S.G. 1981 Bulletin of Environmental and Occupational Toxicology 27: 380-385
6689 Urine		GC	21	1-260 ug/ml	29.65 ug/ml	Detection limit 1 ug/ml Autopsy data Northern Bavaria GERMANY: AUTOPSIES: ADIPOSE TISSUE; BLOOD; BRAIN; KIDNEYS; LIVER; SPLEEN; URINE; PENTACHLOROPHENOL	Grims, R.-G. Schellmann, B. Schaller, K.-H. Gossler, K. 1981 Zentralblatt fuer Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene, Abteilung 1. Originale, Reihe B 174: 77-90

Phenol, 5-chloro-2-(2,4-dichlorophenoxy) -
380-34-5
C17-B-C13-02
NW 269-3, NP 55-57 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6650 Skin	Dermal	Radioactivity	1 per treatment	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable	a) 0.131 ug/g CA b) .79 ug/g CA c) .106 ug/g CA d) .194 ug/g CA e) 0.126 ug/g CA f) 0.243 ug/g CA g) < 0.01 ug/g CA	a) 10 min after wash with conventional soap b) 10 min after wash with 1% water soap c) 10 min after wash with non-soap detergent d) 10 min after 6 washes with conventional soap e) 10 min after 6 washes with equilibrated soap f) 10 min after 6 washes with non-soap detergent g) 48 h after wash, all samples a) washed 2 min with 0.25 M of an 8% aqueous solution of 0.05% (3H)-DPOC fresh or equilibrated 1 h with shaking for 10 min twice daily Total epidermal plus dermal GERMANY: SKIN: RATS	Black, J.G. Hovens, D. Butcherford, T. 1975 Toxicology 3: 13-47

Phosphoric acid, 2,2-dichlorovinyl diethyl ester (8 CI)
 629 phosphoric acid, 2,2-dichlorovinyl diethyl ester (9 CI)
 C8-87-C12-08-P
 MW 220.98, BP 120 C at 14 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6651 urine		GC	17	3.1-789.1 ug	176.1 *or- 225.9 ug	Volatile metabolite (O,O'-diethyl, P-aryl phosphate). Seen in urine for pre-shift, shift and post-shift periods. Mean air exposure 4.1-131.0 ug/m ³ . Workers also exposed to Diazinon (0.8-41.0 ug/cm ³) which yields same urinary metabolite Pest control operators, Texas TEHS: URINE; INDUSTRIAL HYGIENE; ORGANOPHOSPHATES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES	Hayes, A.L. Time, P.A. Mason, P.B. 1980 American Industrial Hygiene Association Journal 41:568-575

Phosphorodithioic acid, S,S'-ethylene O,O',O'-tetracetyl ester
 563-12-2
 C9-822-04-P2-Sa
 MW 386.68, BP -12 to -13 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6652 urine	Inhalation Dermal	GC	17	a) 137.1-470.4 ppb b) 71.5-282.0 ppb c) 149.6-442.1 ppb d) 85.6-541.1 ppb	a) 266.3 *or- 111.3 ppb b) 132.8 *or- 75.9 ppb c) 349.8 *or- 167.8 ppb d) 183.2 *or- 139.5 ppb	a) Diethyl thiophosphate, 8 workers who mixed ethion and filled spray tanks b) Diethyl thiophosphate, 9 workers who operated tractors pulling ethion air blast sprayers c) Diethyl dithiophosphate. Same as b) d) Diethyl dithiophosphate. Same as b) Range of mean Residues given for levels of dermal and respiratory exposure Citrus grove workers, Florida FLORIDA URINE; PESTICIDES; ACCIDENTS; RESPIRATORY; OCCUPATIONAL HAZARDS; ORCHARDS; PESTICIDE RESIDUES	Bolech, G.A. Hogg, R.W. Staspet, J.R. Bradley, D.R. 1981 Archives of Environmental Health Toxicology 10:725-735

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	SABOZ	REAR	GENERAL INFORMATION	REFERENCE
6653 urine		GC	23-40	a) 0.10-0.19 ppm b) Not detectable-0.19 ppm c) Not detectable-0.28 ppm d) 0.10-0.22 ppm e) Not detectable-0.15 ppm f) Not detectable g) 0.10-1.12 ppm h) Not detectable i) 0.10-0.13 ppm j) Not detectable-0.23 ppm k) <0.10-0.30 ppm l) <0.10-0.74 ppm m) Not detectable n) <0.10-0.56 ppm o) <0.10-0.56 ppm p) Not detectable q) Not detectable	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given l) Not given m) Not given n) Not given o) Not given p) Not given q) Not given	a) 0,0-Diethylphosphoric acid (DMP), Baseline b) 0,0-Diethylphosphoric acid (DMP), Baseline c) 0,0-Diethylphosphoric acid (DMP), farmworkers baseline d) 0,0-Diethylphosphoric acid (DMP), farmworkers baseline e) DMP, farmworkers, reentry f) DMP, farmworkers, reentry g) DMP, farmworkers, postreentry h) DMP, farmworkers, postreentry i) DMP, farmworkers, postreentry j) DMP, volunteers baseline k) DMP, volunteers, baseline controls l) DTP, volunteers, baseline m) DTP, volunteers, baseline n) DMP, volunteers, reentry o) DTP, volunteers, reentry p) DTP, volunteers, reentry q) Baseline (10-12 days before reentry, and postreentry (2-3 wk after) levels for citrus grove workers and baseline (1 wk before) and reentry levels for student volunteers working in groves treated 30 days earlier with parathion (a lb/100 gal water/acre or 6 lb/1900 gal water/acre). Controls assigned to untreated plots. Daily fecal values also given Mexican American farmworkers 18 yr or older, and 19-28 yr old college students, CA Baseline (no exposure) acetylcholinesterase (AChE) and plasma cholinesterase (PChE) residue levels significantly higher in workers than untreated controls volunteers PChE declined but AChE and residue levels changed little after exposure CALIFORNIA: ADULTS; DEHP; ORGANOPHOSPHATES; PESTICIDES; CROP DUSTING; FARM; METABOLITES; OCCUPATIONAL HAZARDS	Kraus, J.P. Mull, B. Kraus, J.P. Wurtz, P. Pratt, C.R. Borhani, W. Kilgore, W. 1991 Journal of Toxicology and Environmental Health 8:169-184

Phosphoric acid, O, O-diethyl - (2, 6-trichloro-2-pyridyl) ester (9 CI)
 9921-88-2
 Phosphoric acid, O, O-diethyl - (2, 6-trichloro-2-pyridyl) ester (9 CI)
 9921-88-2
 Phosphoric acid, O, O-diethyl - (2, 6-trichloro-2-pyridyl) ester (9 CI)
 9921-88-2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
65a urine		GC	16	a) 8.8-344.1 ug b) 1.0-34.9 ug	a) 48.3 +0/- 58.6 ug b) 8.3 +0/- 9.0 ug	a) C,O-diethyl, O-aryl phosphate b) O,O-diethyl, O-aryl phosphorothiolate Average 8 hr outputs for preshift, shift and postshift periods. Mean air exposure 0.9-27.6 (mean 7.4) ug/cu m	Hayes, A.L. Wise, P.A. Weir, P.W. 1980 American Industrial Hygiene Association Journal 41:563-575
						Pest control operators, Texas	
						TEHS: URINE; INDUSTRIAL HYGIENE; ORGANOPHOSPHATES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES	

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6655 urine		GC	17	a) 31-789.1 ug b) 3.3-7.9 ug	a) 176.1 + or - 235.9 ug b) 5.6 ug	a) O,O-diethyl, O-aryl phosphate b) O,O-diethyl, O-aryl phosphorothionate Average 8 hr outputs for pre-shift, shift and postshift periods. Mean air exposure 0.8-81.0 (mean 6.39) ug/cu m. Workers also exposed to vapors (8.1-131.0 ug/cu m) which produces metabolite (a) TESTS: URINE: KIDNEY: RESIDUES: ORGANOPHOSPHATES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES	Hayes, A.L. Wilm, S.A. Walt, P.B. 1980 American Industrial Hygiene Association Journal 41:568-575

Phosphorus
7723-14-0

E
MW 30.97376, MP 44.1 C, BP 280 C, VP 10 mm Hg at 127 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUBJECT OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6656 Adrenal gland		ES	Not given		3500 + or - 1400 ppm dry wt.	Normal tissue Autopsies Japan TONGUE: TISICORUM; ELEMENTS: JAPAN; ADRENALS: AUTOPSIES; ADRENAL GLANDS: AORTA: BONES; HEART: TESTICLES; KIDNEYS: LIVER; LONGS: LYMPH NODES; SPLEEN: PANCREAS; STOMACH: THYROID GLANDS; TRACHEA: ALUMINUM; BARIUM; CADIUM; CALCIUM; CERIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; POLYMERUR; SICKLE; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TINNIVEL; ZINC; BIOCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Taraka, R. 1981 Archives of Environmental Health 36(4): 155-165
6657 Lungs		ES	Not given		3200 + or - 810 ppm dry wt	Normal tissue Autopsies Japan TONGUE: TISICORUM; ELEMENTS: JAPAN; ADRENALS: AUTOPSIES; ADRENAL GLANDS: AORTA: BONES; HEART: TESTICLES; KIDNEYS: LIVER; LONGS: LYMPH NODES; SPLEEN: PANCREAS; STOMACH: THYROID GLANDS; TRACHEA: ALUMINUM; BARIUM; CADIUM; CALCIUM; CERIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; POLYMERUR; SICKLE; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TINNIVEL; ZINC; BIOCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Taraka, R. 1981 Archives of Environmental Health 36(4): 155-165

(WRITE PAGE)

Phosphorus
7723-14-0

Atw 30.97376, HP 44.1 C, BP 280 C, WP 10 mm Hg at 127 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6656 Blood, Plasma		ALS	a) 20 b) 20	a) Not given b) Not given	a) 3.08 $\pm$ 0.68 uol/l b) 2.92 $\pm$ 0.6 uol/l	a) limited care dialysis patients b) fose dialysis patients Clinically stable patients on intermittent dialysis > 3 months HEMODIALYSIS: KIDNEY DISEASES; CALCIUM; METALS: PHOSPHORUS; BLOOD; BLOOD PLASMA; ALUMINUM	Kuskey, R. Becton, R. P. Graefe, U. Langer, R. 1980 Proceedings, University of Wisconsin, 1981 Conference on Trace Substances in Man Environmental Health 18:299-303
6659 Blood, serum	Ingestion	Photometry	2	a) 3.5-4.1 ug/100 ml b) 3.0-4.0 ug/100 ml c) 3.0-3.5 ug/100 ml d) 3.1-3.5 ug/100 ml	a) Not given b) Not given c) Not given d) Not given	a) Subject 1, intake 1288 mg/24 hr, low fiber diet b) Subject 1, intake 1740 mg/24 hr, high fiber diet c) Subject 2, intake 1400 mg/24 hr, low fiber diet d) Subject 2, intake 1940 mg/24 hr, high fiber diet Total fiber intake 50% caloric intake from white bread for 20 days followed by 20 days on high fiber, moderate phytate local bread 35 and 24 yr old, wt 56.0 & 60.3 kg, Iran TEAM: ADULTS: NUTRITIONAL DEFICIENCIES: BLOOD PLASMA; BLOOD SERUM; URINE; CALCIUM; MAGNESIUM; PHOSPHORUS; ZINC; DIETS; FIBERS; FOODS; METALS	Reinhold, J. G. Kuskey, R. Khadji, S. Yassil-Najafi, F. 1976 Journal of Nutrition 106:493-503
6660 Same		ES	5	Not given	4000 $\pm$ 0.14000 ppm dry wt	Total tissue Autopsies Japan TCRGE: ZINCORION; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ACHTA; SORES; HEART; MYSTINES; KIDNEY; LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; COPPER; IRON; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOMONITORING; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, R. 1991 Archives of Environmental Health 36(4):153-165

(NEXT PAGE)

Atw 30.97376, NP 44.1 C, BP 280 C, VP 10 mm Hg at 127 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	MEAN	GENERAL INFORMATION	REFERENCE
6661 Heart		ES	a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) 1200-3000 ppm c) 1200-4900 ppm d) Not applicable e) Not applicable Dry wt	a) 3100 +/- 1700 ppm b) 2100 ppm c) 2633 ppm d) 2000 ppm e) 2100 ppm Dry wt	a) Normal healthy men b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan TCBORG: ZINCORUM; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALDHEN; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Terada, H. 1981 Archives of Environmental Health 36 (4): 155-165
6662 Intestine		ES	10	Not given	2100 +/- 930 ppm dry wt	Normal tissue Autopsies Japan TCBORG: ZINCORUM; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALDHEN; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Terada, H. 1981 Archives of Environmental Health 36 (4): 155-165
6663 Kidney		ES	a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) 1500-3200 ppm c) 1300-5000 ppm d) Not applicable e) Not applicable Dry wt	a) 3800 +/- 1800 ppm b) 2350 ppm c) 2867 ppm d) 3100 ppm e) 2800 ppm Dry wt	a) Normal healthy men b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan TCBORG: ZINCORUM; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALDHEN; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Terada, H. 1981 Archives of Environmental Health 36 (4): 155-165

UNIT PAGE

Phosphorus
7723-14-0

ATW 30.47376, MP 44.1 C, BP 280 C, VP 10 mm Hg at 127 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6666 Liver		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) 3200-4200 ppm c) 2500-5400 ppm d) Not applicable e) Not applicable Dry wt	a) 5000 +or- 2500 ppm b) 2700 ppm c) 3900 ppm d) 1900 ppm Dry wt	a) Normal healthy men b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan TCMGH: ZINCORUM; ELEMENTS: JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; ADULTS; ADULTS; HEART; LIVER; KIDNEYS; LIVER; LUNGS; LYMPH NODES; GLANDS; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6665 Lung		ES	a) 12 b) 2 c) 3 d) 1 e) 1	a) Not given b) 1700-3500 ppm c) 1700-4300 ppm d) Not applicable e) Not applicable Dry wt	a) 4800 +or- 2300 ppm b) 2600 ppm c) 3033 ppm d) 2800 ppm e) 3600 ppm Dry wt	a) Normal healthy men b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan TCMGH: ZINCORUM; ELEMENTS: JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; ADULTS; ADULTS; HEART; LIVER; KIDNEYS; LIVER; LUNGS; LYMPH NODES; GLANDS; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6666 Lymph node		ES	a) 3 b) 1 c) 3 d) 1 e) 1	a) Not given b) Not applicable c) 2000-3000 ppm d) Not applicable e) Not applicable Dry wt	a) 6100 +or- 3000 ppm b) 4600 ppm c) 3433 ppm d) 4200 ppm e) 10,000 ppm Dry wt	a) Normal men b) Chromate plating worker c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan TCMGH: ZINCORUM; ELEMENTS: JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; ADULTS; ADULTS; HEART; LIVER; KIDNEYS; LIVER; LUNGS; LYMPH NODES; GLANDS; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

Plasmapheresis
7723-16-0

At 30.07376, NP 48.1 C, BP 280 C, VP 10 mm Hg at 127 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6667 Pancreas		ES	5	Not given	6400 $\pm$ 1900 ppm dry wt	Normal tissue Autopsies Japan TONGUE: ZINC; BONES: ELEMENTS; JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; LIVER; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID; GLANDS; TRACHEA; ALBUMEN; BARIUM; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tetsuka, H. 1981 Archives of Environmental Health 36(4):155-165
6668 Spleen		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) 3600-5000 ppm c) 1800-6000 ppm d) Not applicable e) Not applicable Dry wt	a) 4900 $\pm$ 2600 ppm b) 4300 ppm c) 4433 ppm d) 5200 ppm e) 5200 ppm Dry wt	a) Normal healthy men b) Chromium plating workers c) Chromate refinishing workers d) Airplane painter e) Stone mason Autopsies Japan TONGUE: ZINC; BONES: ELEMENTS; JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; LIVER; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID; GLANDS; TRACHEA; ALBUMEN; BARIUM; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tetsuka, H. 1981 Archives of Environmental Health 36(4):155-165
6669 Stomach		ES	10	Not given	2100 $\pm$ 930 ppm dry wt	Normal tissue Autopsies Japan TONGUE: ZINC; BONES: ELEMENTS; JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; LIVER; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID; GLANDS; TRACHEA; ALBUMEN; BARIUM; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tetsuka, H. 1981 Archives of Environmental Health 36(4):155-165

(SEE PAGE)

mp 30.97376, mp 44.1 C, bp 280 C, vp 10 mm Hg at 127 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6670 Thyroid gland		ES	4	Not given	1200 $\pm$ 410 ppm dry wt	Normal tissue Autopsies Japan TONGUE: ZINCORION; ELEMENTS: JAPAN; ADOLTS: AUTOPSIES; ADRENAL GLANDS; ADOLTS: BONES; HEART; INTESTINES; ADOLTS: LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALBUMEN; BARIUM; CADIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; MOLYBDENUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tetsuka, H. 1981 Archives of Environmental Health 36 (4): 155-165
6671 Tongue		ES	2	Not given	1700 $\pm$ 210 ppm dry wt	Normal tissue Autopsies Japan TONGUE: ZINCORION; ELEMENTS: JAPAN; ADOLTS: AUTOPSIES; ADRENAL GLANDS; ADOLTS: BONES; HEART; INTESTINES; ADOLTS: LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALBUMEN; BARIUM; CADIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; MOLYBDENUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tetsuka, H. 1981 Archives of Environmental Health 36 (4): 155-165
6672 Trachea		ES	2	Not given	1100 $\pm$ 140 ppm dry wt	Normal tissue Autopsies Japan TONGUE: ZINCORION; ELEMENTS: JAPAN; ADOLTS: AUTOPSIES; ADRENAL GLANDS; ADOLTS: BONES; HEART; INTESTINES; ADOLTS: LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALBUMEN; BARIUM; CADIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; MOLYBDENUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tetsuka, H. 1981 Archives of Environmental Health 36 (4): 155-165

SECRET PAGE

Phosphorus
7723-14-0

Atm 30.97376, BP 40.1 C, BP 280 C, VP 10 mm Hg at 127 C

(Continued)

TISSUE	EXPOSURE SOURCE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6673 Ortine	Ingestion	Photometry	2	a) Not given b) Not given c) Not given d) Not given	a) 76 ± or - 51 mg/100 ml b) 65 ± or - 69 mg/100 ml c) 887 ± or - 24 mg/100 ml d) 1260 ± or - 75 mg/100 ml	a) Subject 1, intake 1288 mg/24 hr, low fiber diet b) Subject 1, intake 1740 mg/24 hr, high fiber diet c) Subject 2, intake 1400 mg/24 hr, low fiber diet d) Subject 2, intake 1940 mg/24 hr, high fiber diet Total dietary intake 50% caloric intake from white bread for 20 days followed by 20 days on high fiber, moderate phytate local bread 35 and 24 yr old, wt 56.0 & 60.3 kg. FRAE	Reinhold, J.G. Paradijs, R. Abadi, P. Issail-Baigi, R. 1976 Journal of Nutrition 106:493-503
						IYAM: ADULTS; NUTRITIONAL DEFICIENCIES: BLOOD PLASMA: BLOOD SERUM: URINE: CALCIUM; MAGNESIUM; PHOSPHORUS; ZINC; DIETS: FIBERS; FOODS: RETIALS	

Platonius
7440-07-5

At 242, 244, HP 639.5 C (also reported as 641 C), HP 3232 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
667a Body						Review. Evaluation of environmental impact of Pu and consideration of protection standards COMBDS: AUTOPSIES: CASE HISTORIES: BORN; BONES: KIDNEY; LIVER; LUNG; LYMPH NODES; SKIN; PLUTONIUM; AIR POLLUTION; INDUSTRIAL ACCIDENTS; OCCUPATIONAL HAZARDS: BABYDENT; DOSES; RADIOISOTOPES	Liverman, J.L. Yoder, R.E., Jr. Wrenn, R.E. Bennett, B.G. Bair, W.J. Burr, W.W., Jr. Richmond, C.E. Thompson, R.C. Stanhart, J.E. 1978 EPA Testimony, December 10-11, 1978, Washington, DC. WASH-1359, 339 pp.
667b Bone						Review. Evaluation of environmental impact of Pu and consideration of protection standards COMBDS: AUTOPSIES: CASE HISTORIES: BORN; BONES: KIDNEY; LIVER; LUNG; LYMPH NODES; SKIN; PLUTONIUM; AIR POLLUTION; INDUSTRIAL ACCIDENTS; OCCUPATIONAL HAZARDS: RADIATION; DOSES; RADIOISOTOPES	Liverman, J.L. Yoder, R.E., Jr. Wrenn, R.E. Bennett, B.G. Bair, W.J. Burr, W.W., Jr. Richmond, C.E. Thompson, R.C. Stanhart, J.E. 1978 EPA Testimony, December 10-11, 1978, Washington, DC. WASH-1359, 339 pp.

(NEXT PAGE)

Plutonium
440-07-5

REV 242, 240, MP 639.5 C (also reported as 641 C), MP 3232 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	REAR	GENERAL INFORMATION	REFERENCE
6676 Gonads						Review. Evaluation of environmental impact of Pu and consideration of protection standards GONADS: AUTOPSIES; CASE HISTORIES: BODY; BONES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SKIN; PLUTONIUM; AIR POLLUTION; INDUSTRIAL ACCIDENTS; OCCUPATIONAL HAZARDS; RADIATION DOSES; RADIONUCLIDES	Liverman, J.L. Yoder, R.E., Jr. Wrenn, R.E. Bennett, B.G. Bair, W.J. Burr, W.W., Jr. Richmond, C.R. Thompson, R.C. Stannard, J.W. 1974 EPA Testimony, December 10-11, 1974, Washington, DC, WASH-1359, 339 pp.
6677 Kidney						Review. Evaluation of environmental impact of Pu and consideration of protection standards GONADS: AUTOPSIES; CASE HISTORIES: BODY; BONES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SKIN; PLUTONIUM; AIR POLLUTION; INDUSTRIAL ACCIDENTS; OCCUPATIONAL HAZARDS; RADIATION DOSES; RADIONUCLIDES	Liverman, J.L. Yoder, R.E., Jr. Wrenn, R.E. Bennett, B.G. Bair, W.J. Burr, W.W., Jr. Richmond, C.R. Thompson, R.C. Stannard, J.W. 1974 EPA Testimony, December 10-11, 1974, Washington, DC, WASH-1359, 339 pp.
6678 Liver						Review. Evaluation of environmental impact of Pu and consideration of protection standards GONADS: AUTOPSIES; CASE HISTORIES: BODY; BONES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SKIN; PLUTONIUM; AIR POLLUTION; INDUSTRIAL ACCIDENTS; OCCUPATIONAL HAZARDS; RADIATION DOSES; RADIONUCLIDES	Liverman, J.L. Yoder, R.E., Jr. Wrenn, R.E. Bennett, B.G. Bair, W.J. Burr, W.W., Jr. Richmond, C.R. Thompson, R.C. Stannard, J.W. 1974 EPA Testimony, December 10-11, 1974, Washington, DC, WASH-1359, 339 pp.
6679 Lung						Review. Evaluation of environmental impact of Pu and consideration of protection standards GONADS: AUTOPSIES; CASE HISTORIES: BODY; BONES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SKIN; PLUTONIUM; AIR POLLUTION; INDUSTRIAL ACCIDENTS; OCCUPATIONAL HAZARDS; RADIATION DOSES; RADIONUCLIDES	Liverman, J.L. Yoder, R.E., Jr. Wrenn, R.E. Bennett, B.G. Bair, W.J. Burr, W.W., Jr. Richmond, C.R. Thompson, R.C. Stannard, J.W. 1974 EPA Testimony, December 10-11, 1974, Washington, DC, WASH-1359, 339 pp.

(SEE PAGE)

Plutonium
7440-07-5

En

Atm 242, 243, NP 639.5 C (also reported as 641 C), NP 3232 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6680 Lymph node						Review. Evaluation of environmental impact of Pu and consideration of protection standards GONADS: AUTOPSIES; CASE HISTORIES: BODY: BONES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SKIN; PLUTONIUM; AIR POLLUTION; INDUSTRIAL ACCIDENTS; OCCUPATIONAL HAZARDS; RADIATION DOSES; RADIONUCLIDES	Liveman, J.L. Yoder, R.E., Jr. Wrenn, M.E. Bennett, E.G. Bair, W.J. Bair, W.W., Jr. Richmond, C.A. Thompson, R.C. Stannard, J.E. 1978 EPA Testimony, December 10-11, 1978, Washington, DC, WASH-1359, 339 pp.
6681 Skin						Review. Evaluation of environmental impact of Pu and consideration of protection standards GONADS: AUTOPSIES; CASE HISTORIES: BODY: BONES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SKIN; PLUTONIUM; AIR POLLUTION; INDUSTRIAL ACCIDENTS; OCCUPATIONAL HAZARDS; RADIATION DOSES; RADIONUCLIDES	Liveman, J.L. Yoder, R.E., Jr. Wrenn, M.E. Bennett, E.G. Bair, W.J. Bair, W.W., Jr. Richmond, C.A. Thompson, R.C. Stannard, J.E. 1978 EPA Testimony, December 10-11, 1978, Washington, DC, WASH-1359, 339 pp.

Polybrominated biphenyls (No postings in CHEMLINE).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6682 Adipose			a) 23 b) 28	a) Not given b) Not given	a) 3.26 ppm b) 12.62 ppm	a) Farmers b) Chemical workers 16-59 yr old farmers with known PBB exposure and disabling health problems; and 23-62 yr old chemical workers in PBB manufacture, Michigan. Hepatomegaly and skin rashes in farmers. Minor elevations of serum uric acid, iron, cholesterol and triglycerides NICHIGAN: BLOOD SERUM; BROMINE ORGANIC COMPOUNDS; BIPHENYL COMPOUNDS; OCCUPATIONAL HAZARDS; RADIATION EXPOSURE; ADIPOSE TISSUE; FARMERS; RASHERS; POLYBROMINATED BIPHENYLS; FOOD CONTAMINATION	Stross, J.K. Soklar, I.A. Iabekter, J. Wilcox, K.B. 1981 Toxicology and Applied Pharmacology 56:145-150

(NEXT PAGE)

Polychlorinated biphenyls /80 postage in CHEMLIBS).

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6683 Blood, serum			a) 23 b) 28 c) 9	a) Not given b) Not given c) Not given	a) 0.014 ppm b) 0.004 ppm c) 0.002 ppm	a) Farmers b) Chemical workers c) Public Health staff, controls 16-59 yr old farmers with known PBB exposure and disabling health problems and 23-42 yr old chemical workers in PBB manufacture, Michigan. Hepatomegaly and skin rashes in farmers. Minor elevations of serum uric acid, lipoa, cholesterol and triglycerides MICHIGAN: BLOOD SERUM; BROMINE ORGANIC COMPOUNDS; BIPHENYL COMPOUNDS; OCCUPATIONAL HAZARDS; FOOD CONTAMINATION; ADIPOSE TISSUE; FATS; HEALTH HAZARDS; POLYCHLORINATED BIPHENYLS; FOOD CONTAMINATION	Strom, J.E. Seoklar, T.A. Iabster, J. Wilcox, K.E. 1981 Toxicology and Applied Pharmacology 58:145-150

Tetralin

7460-09-7

Ref 39,098, BP 63.2 C, BP 765.5 C, VP 100 mm Hg at 590 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6684 Adrenal gland		ES	7	Not given	4500 + or - 2400 ppm dry wt	Normal tissue Japan TONGUE: ZINCUMIN; ELEMENTS: JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; STOMACH; THYROID GLAND; UTERUS; CHROMIUM; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(3):155-165
6685 Aorta		ES	7	Not given	3700 + or - 500 ppm dry wt	Normal tissue Japan TONGUE: ZINCUMIN; ELEMENTS: JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

mp 39.090, bp 63.2 C, sp 765.5 C, vp 100 mm Hg at 590 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6686 Blood, serum	Ingestion		20	a) 3.0-8.4 mg/l b) 3.2-5.2 mg/l c) 3.1-4.2 mg/l d) 3.0-4.8 mg/l e) 3.1-4.5 mg/l f) 2.9-4.0 mg/l g) 3.2-4.0 mg/l h) 3.1-4.3 mg/l i) 3.1-4.0 mg/l j) 3.1-3.8 mg/l	a) 3.76 $\pm$ 0.57 b) 3.85 $\pm$ 0.67 c) 3.72 $\pm$ 0.46 d) 3.89 $\pm$ 0.61 e) 3.75 $\pm$ 0.48 f) 3.47 $\pm$ 0.29 g) 3.82 $\pm$ 0.41 h) 3.70 $\pm$ 0.39 i) 3.61 $\pm$ 0.29 j) 3.47 $\pm$ 0.24 mg/l	a) Before therapy, patients to initially receive liquid supplements b) 40 mg/day as K-glucosate solution, at 2 wk c) 40 mg/day, as K-glucosate solution, at 4 wk d) 48 mg/day, as KCl tablet, at 6 wk e) 48 mg/day, as KCl tablet, at 8 wk f) Before therapy, patients to initially receive tablets g) 48 mg/day as KCl tablet, at 2 wk h) 48 mg/day as KCl tablet, at 4 wk i) 40 mg/day as K-glucosate solution, at 6 wk j) 40 mg/day as K-glucosate solution, at 8 wk No significant differences between levels with the two diets. Not all patients adhered strictly to regimen. Hypertension patients, 43-67 yr old ADULTS: HYPERTENSION; BLOOD SERUM; DIETETICS; POTASSIUM	Hutchinson, J.C. 1974 Journal of Clinical Pharmacology 16(11/12):624-629
6687 Bone		ES	5	Not given	4000 $\pm$ 3200 ppm dry wt	Normal tissue Japan TONGUE: XISCONIUM; ELEMENTS: JAPAN; ADULTS: AUTOPSY; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; MCDERMID; MICKEL; PHOSPHORUS; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6688 Hair		HA		a) 3.0-165 ppm b) 20-137 ppm c) 5.4-71 ppm	a) 82 $\pm$ 32 ppm b) 50 $\pm$ 20 ppm c) 33 $\pm$ 22 ppm	a) 12 cm length, 104 samples b) Root section, 10 samples c) Distal section, 10 samples Metropolitan Bombay, India INDIA: ADOLSCENTS; ADULTS; HAIR; ANTHONY; ARSENIC; BROMINE; CADMIUM; CHLORINE; CHROMIUM; COBALT; COPPER; GOLD; IODINE; IRON; LANTHANUM; MANGANESE; POTASSIUM; SCANDIUM; SILVER; SODIUM; ZINC; AIR POLLUTION; BIOACCUMULATION; FOSSIL FUELED POWER PLANTS; INDUSTRIAL WASTE; INDUSTRIAL ATMOSPHERES; INDUSTRIAL EMISSIONS; INDUSTRIAL POLLUTION; POPULATION; THERMAL AREAS; INDUSTRIAL CHEMICALS	Pat, K.S. Arunchalas, J. Vengasabalan, S. Gangadharan, S. 1982 Science of the Total Environment 22:167-179

----- PAGE -----

Potassium
7440-09-7
R

Atw 39.098, HP 43.2 C, BP 765.5 C, VP 100 mm Hg at 590 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6689 Heart		ES	8	Not given	9100 $\pm$ 0.1- 1700 ppm dry wt	Normal tissue Japan TONGUE; ZINCORUM; ELEMENTS; JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; SPLEEN; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; THYROID; THYROID GLANDS; GLANDS; TRACHEA; ALBUMEN; BARIUM; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6690 Intestine		ES	10	Not given	5200 $\pm$ 0.1- 1800 ppm dry wt	Normal tissue seas of stomach and intestine Japan TONGUE; ZINCORUM; ELEMENTS; JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; SPLEEN; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; THYROID; THYROID GLANDS; GLANDS; TRACHEA; ALBUMEN; BARIUM; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6691 Kidney		ES	8	Not given	7000 $\pm$ 0.1- 810 ppm dry wt	Normal tissue Japan TONGUE; ZINCORUM; ELEMENTS; JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; SPLEEN; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; THYROID; THYROID GLANDS; GLANDS; TRACHEA; ALBUMEN; BARIUM; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

6688a
Liver

At 19.098, MP 63.2 C, BP 765.5 C, VP 100 mm Hg at 590 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SURVIVAL OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6692 Liver		ES	9	Not given	7200 $\pm$ or - 1300 ppa dry wt	Normal tissue Japan TONGUE: ZINCORNIUM; ELEMENTS: JAPAN; ADULTS: AUTOPHAGY; ADRENAL GLANDS; AORTA: BONES; HEART: LIVER; LUNGS; KIDNEYS: LIVER; LUNGS; LIVER; LUNGS; SPLEEN: PANCREAS; STOMACH; THYROID; GLANDS: TRACHEA; ALUMINUM; BARIUM; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tetsuka, H. 1981 Archives of Environmental Health 36(4):155-165
6693 Lung		ES	12	Not given	7100 $\pm$ or - 1200 ppa dry wt	Normal tissue Japan TONGUE: ZINCORNIUM; ELEMENTS: JAPAN; ADULTS: AUTOPHAGY; ADRENAL GLANDS; AORTA: BONES; HEART: LIVER; LUNGS; KIDNEYS: LIVER; LUNGS; LIVER; LUNGS; SPLEEN: PANCREAS; STOMACH; THYROID; GLANDS: TRACHEA; ALUMINUM; BARIUM; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tetsuka, H. 1981 Archives of Environmental Health 36(4):155-165
6688 Lymph node		ES	3	Not given	13000 $\pm$ or - 4500 ppa dry wt	Normal tissue Japan TONGUE: ZINCORNIUM; ELEMENTS: JAPAN; ADULTS: AUTOPHAGY; ADRENAL GLANDS; AORTA: BONES; HEART: LIVER; LUNGS; KIDNEYS: LIVER; LUNGS; LIVER; LUNGS; SPLEEN: PANCREAS; STOMACH; THYROID; GLANDS: TRACHEA; ALUMINUM; BARIUM; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tetsuka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

Potassium
7440-09-7
MW 39.098, MP 63.2 C, BP 765.5 C, VP 100 mm Hg at 590 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	DEATH	GENERAL INFORMATION	REFERENCE
6695 Pancreas		ES	5	Not given	7100 +/- 1400 ppa dry wt	Normal tissue Japan TONGUE; ZINCORUM; ELEMENTS: JAPAN; ADULTS; ANTIPYRIN; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; COPPER; CALCIUM; CHROMIUM; COBALT; MANGANESE; METALS; MOLYBDENUM; NICKEL; LEAD; MAGNESIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6696 Spleen		ES	9	Not given	10000 +/- 2000 ppa dry wt	Normal tissue Japan TONGUE; ZINCORUM; ELEMENTS: JAPAN; ADULTS; ANTIPYRIN; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; LEAD; MAGNESIUM; SILICON; PHOSPHORUS; POTASSIUM; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6697 Stomach		ES	10	Not given	5400 +/- 1800 ppa dry wt	Normal tissue Mucosa of stomach and intestine Japan TONGUE; ZINCORUM; ELEMENTS: JAPAN; ADULTS; ANTIPYRIN; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; LEAD; MAGNESIUM; SILICON; PHOSPHORUS; POTASSIUM; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

MP 39.0-40.0, BP 63.2 C, DP 765.5 C, VP 100 mm Hg at 590 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	SEAL	GENERAL INFORMATION	REFERENCE
6698 Thyroid gland		ES	8	Not given	3300 egr- 560 ppm dry wt	Normal tissue Japan TONGUE: ZIRCONIUM; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PAROTIDS; STOMACH; THYROID GLANDS; TRACHEA; UTERUS; VARIUM; CADMIUM; CALCIUM; CHLORINE; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; RETALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIODACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tsuruta, N. 1981 Archives of Environmental Health 36(4): 155-165
6699 Tongue		ES	2	Not given	6200 egr- 710 ppm dry wt	Normal tissue Japan TONGUE: ZIRCONIUM; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PAROTIDS; STOMACH; THYROID GLANDS; TRACHEA; ALVEOLI; BILIUM; CADMIUM; CALCIUM; CHLORINE; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; RETALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIODACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tsuruta, N. 1981 Archives of Environmental Health 36(4): 155-165
6700 Trachea		ES	2	Not given	3600 egr- 1100 ppm dry wt	Normal tissue Japan TONGUE: ZIRCONIUM; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PAROTIDS; STOMACH; THYROID GLANDS; TRACHEA; ALVEOLI; BILIUM; CADMIUM; CALCIUM; CHLORINE; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; RETALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIODACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tsuruta, N. 1981 Archives of Environmental Health 36(4): 155-165

Potassium, isotope of mass 40
 1366-00-2
 MW 39.098, BP 63.2 C, VP 765.5 C (also reported as 774 C)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6701 Body		Radioactivity	88	a) Not given b) Not given c) Not given d) Not given	a) 2.22 $\pm$ 0.21 g/kg b) 2.60 $\pm$ 0.19 g/kg c) 2.40 $\pm$ 0.15 g/kg d) 2.71 $\pm$ 0.14 g/kg	a) Whole body measurement, urban residents b) Fat-free mass, urban residents c) Whole body measurement, rural residents d) Fat-free mass, rural residents 12-14 yr old Japanese boys JAPAN: CHILDREN: BODY: COMPARATIVE EVALUATIONS: IN VIVO ANALYSIS: POTASSIUM: URBAN AREAS	Anai, I., Sakamoto, K., Togo, K., Katsunuma, H., 1981 Annals of Human Biology 8(2):109-117

Propane, 2-nitro-
 1366-00-2
 MW 89.09, BP 120 C, VP 10 mm Hg at 15.8 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6702 Breath		GC/MS	28	0.4-1.3 mg/l	0.7 mg/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROBENZENES	Kotomiyoshi, B., Gabriel, G., O'Mall, H., Clandio, M.P.A., 1977 Journal of Chromatographic Science 15:239-244

Propionic acid, 3-mercaptop-, ethyl ester (9 CI)
 Propionic acid, 3-mercaptop-, ethyl ester (9 CI)
 546-06-8
 CS-410-02-S
 MW 134.21

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6703 Breath		GC/MS	28	2.2-5.7 mg/l	4 mg/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROBENZENES	Kotomiyoshi, B., Gabriel, G., O'Mall, H., Clandio, M.P.A., 1977 Journal of Chromatographic Science 15:239-244

Propylphenone (8 CI)
93-550-0
C9-H10-0
MW 138.2, BP 216.0 C, VP 1 mm Hg at 50.0 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6704 Breath		GC/MS	28	0.12-1.5 ug/l	0.4 ug/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotosky, B. Gabriel, G. O'Neill, R. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-246

Benzobenzyl alcohol
2-ethyl-1-hexanol
2-ethyl-1-hexanol
3-methylpentane
97-95-0
C6-H14-0
MW 102.17, BP -15 C, BP 168.9 C, VP 0.9 mm Hg at 20 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6705 Breath		GC/MS	28	0.43-2.3 ug/l	1 ug/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotosky, B. Gabriel, G. O'Neill, R. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-246

Picene
129-08-0
C16-H10
MW 202.26, BP 156 C, BP 404 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6706 Adipose		HPLC	10	49-2700 ppt wet wt	1140 ppt wet wt	Autopsies 27-66 yr olds, Japan INDUSTRIAL CHEMICALS: JAPAN; ADULTS: ADIPOSE TISSUE; LIVER; POPULATION EXPOSURE	Obana, H. Hori, S. Kaminato, T. Kunita, M. 1981 Bulletin of Environmental Contamination and Toxicology 27:23-27
6707 Liver		HPLC	6	270-470 ppt wet wt	383 ppt wet wt	Autopsies 27-66 yr olds, Japan INDUSTRIAL CHEMICALS: JAPAN; ADULTS: ADIPOSE TISSUE; LIVER; POPULATION EXPOSURE	Obana, H. Hori, S. Kaminato, T. Kunita, M. 1981 Bulletin of Environmental Contamination and Toxicology 27:23-27

Radium
7440-16-9

EM

At 226, MP 700 C, BP 1160 C (also reported as 1737 C)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6708 Body			42			Review. Clinical and autopsy findings, subjects surviving 25 yr after first industrial exposure to Ra-226 and Ra-228 RADIUM: NEW JERSEY; AUTOPSIES: CASE HISTORIES: ANEMIA; CARCINOMAS: OCCUPATIONAL DISEASES: ORAL DISEASES; OSTEOSARCOMAS: BONE; BONES: LUNGS: LIVER; INDUSTRIES: OCCUPATIONAL HAZARDS: PAINTS; RADIATION DOSES: RADIONUCLIDES	Sharpe, W.D. 1978 Environmental Research 8:243-383
6709 Bone			42			Review. Clinical and autopsy findings, subjects surviving 25 yr after first industrial exposure to Ra-226 and Ra-228 RADIUM: NEW JERSEY; AUTOPSIES: CASE HISTORIES: ANEMIA; CARCINOMAS: OCCUPATIONAL DISEASES: ORAL DISEASES; OSTEOSARCOMAS: BONE; BONES: LUNGS: LIVER; INDUSTRIES: OCCUPATIONAL HAZARDS: PAINTS; RADIATION DOSES: RADIONUCLIDES	Sharpe, W.D. 1978 Environmental Research 8:243-383
6710 Lung			42			Review. Clinical and autopsy findings, subjects surviving 25 yr after first industrial exposure to Ra-226 and Ra-228 RADIUM: NEW JERSEY; AUTOPSIES: CASE HISTORIES: ANEMIA; CARCINOMAS: OCCUPATIONAL DISEASES: ORAL DISEASES; OSTEOSARCOMAS: BONE; BONES: LUNGS: LIVER; INDUSTRIES: OCCUPATIONAL HAZARDS: PAINTS; RADIATION DOSES: RADIONUCLIDES	Sharpe, W.D. 1978 Environmental Research 8:243-383

Radon

7440-17-7

ER

At 85.4678, MP 39 C, BP 688 C, VP 10 mm Hg at 390 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6711 Blood, whole		γ-Ray Spectrometry	27	Not given	0.9 ppm	Precision 19% BLOOD: MEASUREMENT METHODS: COPPER: IRON: METALS: URANIUM: SELENIUM: ZINC	Bearse, R.C. Close, D.A. Kalanick, J.J. Martyr, C.J. 1980 Analytical Chemistry 56(4):499-503

(NEXT PAGE)

Scandium
7440-20-2
SC
AtW 84-9559, BP 1538 C, BP 2832 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6714 Hair		MA	45	10-40 ug/g	Not given	Range of means, estimated from graph Awan, El Kharga, Assuit, Cairo, and Alexandria, Egypt EGYPT: HAIR: NAILS: ANTIMONY; CADMIUM; CESIUM; CHROMIUM; COBALT; COPPER; GASES; IRON; MANGANESE; SCANDIUM; SILICON; SILVER; THURSTON; ZINC; DRINKING WATER; POPULATION EXPOSURE; SOILS; URBAN AREAS	Kaspeck, K. Iyengar, G.V. Peleandegou, L.E. Hashish, S. Wahfour, M. 1982 Science of the Total Environment 22:149-168
6715 Hair		MA		a) 0.002-0.04 ppm b) 0.005-0.04 ppm c) 0.004-0.04 ppm	a) 0.012 $\pm$ or - 0.010 b) 0.016 $\pm$ or - 0.01 c) 0.02 $\pm$ or - 0.002 ppm	a) 12 cm length, 96 samples b) Root section, 16 samples c) Distal section, 16 samples Metropolitan Bombay, India INDIA: ADOLESCENTS: ADULTS: HAIR; ANTIMONY; ARSENIC; BROMINE; CADMIUM; CHLORINE; CHROMIUM; COBALT; COPPER; GOLD; IODINE; IRON; LANTHANUM; MANGANESE; POTASSIUM; SCANDIUM; SILVER; SODIUM; ZINC; AIR POLLUTION; BIOACCUMULATION; FOSSIL FUELS; INDUSTRIAL; INDUSTRIAL WASTE; INDUSTRIAL WASTE; INDUSTRIAL EMISSIONS; INDUSTRIAL POLLUTION; POPULATION EXPOSURE; URBAN AREAS; INDUSTRIAL CHEMICALS	Shat, K.R. Arumachalam, J. Yegashubramanian, S. Gangadharan, S. 1982 Science of the Total Environment 22:169-178
6716 Hair		MA	61	50-680 ug/g	Not given	Range of means, estimated from graph Awan, El Kharga, Assuit, Cairo, and Alexandria, Egypt EGYPT: HAIR: NAILS: ANTIMONY; CADMIUM; CESIUM; CHROMIUM; COBALT; IRON; MANGANESE; RUTILE; MOLYBDENUM; SCANDIUM; SELENIUM; SILVER; THURSTON; ZINC; DRINKING WATER; POPULATION EXPOSURE; SOILS; URBAN AREAS	Kaspeck, K. Iyengar, G.V. Peleandegou, L.E. Hashish, S. Wahfour, M. 1982 Science of the Total Environment 22:149-168

Selenium
7782-49-2
Se
AtW 78-96, BP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6717 Aorta		MA	a) 3 b) 3 c) 3 d) 6 e) 7 f) 7	a) 0.78-1.72 ug/g b) 0.47-1.32 ug/g c) 0.87-1.32 ug/g d) 0.93-2.78 ug/g e) 0.62-1.87 ug/g f) 0.38-1.65 ug/g dry wt	a) 1.20 $\pm$ or - 0.22 ug/g b) 0.96 $\pm$ or - 0.02 ug/g c) 1.07 $\pm$ or - 0.05 ug/g d) 1.67 $\pm$ or - 0.68 ug/g e) 1.23 $\pm$ or - 0.32 ug/g f) 0.95 $\pm$ or - 0.43 ug/g dry wt	a) Normal intima, median 1.09 ug/g b) Normal media, median 0.98 ug/g c) Normal adventitia, median 1.01 ug/g d) Atherosclerosis, median 1.58 ug/g e) Atherosclerosis, median 1.20 ug/g f) Atherosclerosis, median 0.92 ug/g No known selenium exposure 1 day-79 yr old, autopsies AGE; AUTOPSIES; AORTA; BROMINE	Cross, J.D. Haler, S.W. Salt, W. 1981 Journal of Clinical Pathology 34: 393-395

(NEXT PAGE)

Selenium
782-49-2

REV 78-96, HP 170-217 C, BP 685 C, VP 1 m Hg at 356 C, 10 mm Hg at 429 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6718 Blood, cells		MA	a) 20 b) 20 c) 13 d) 10 e) 30 f) 30	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 440 +or- 90 ng/g b) 469 +or- 70 ng/g c) 410 +or- 70 ng/g d) 470 +or- 60 ng/g e) 558 +or- 112 ng/g f) 571 +or- 109 ng/g Dry wt	a) Adults, cardiovascular disease, urban areas b) Controls for a) c) Adults, cardiovascular disease, rural area d) Controls for c) e) High school seniors, hypertensives, urban area f) Controls for e) Erythrocytes Adults, mean age 55 yr. and students, Chatam and Evans counties, GA Depressed erythrocyte glutathione peroxidase CADIUM: RETALS: SELENIUM: RURAL AREAS: URBAN AREAS: GEORGIA: CARDIOVASCULAR DISEASES: HYPERTENSION: BLOOD: BLOOD PLASMA: ERYTHROCYTES	Andrews, J.W. Hansen, C.G. Metts, J.C., Jr. Metts, J.E. 1980 Proceedings, University of Missouri Annual Conference on Trace Substances in Environmental Health 14:33-42
6719 Blood, Plasma		MA	a) 20 b) 20 c) 10 d) 10 e) 30 f) 30	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 972 +or- 372 ng/g b) 992 +or- 272 ng/g c) 908 +or- 283 ng/g d) 872 +or- 307 ng/g e) 1210 +or- 382 ng/g f) 1190 +or- 364 ng/g Dry wt	a) Adults, cardiovascular disease, urban areas b) Controls for a) c) Adults, cardiovascular disease, rural area d) Controls for c) e) High school seniors, hypertensives, urban area f) Controls for e) Levels lower than those for residents of midwestern U.S. Adults, mean age 55 yr. and students Chatam and Evans counties, GA Depressed erythrocyte glutathione peroxidase CADIUM: RETALS: SELENIUM: RURAL AREAS: URBAN AREAS: GEORGIA: CARDIOVASCULAR DISEASES: HYPERTENSION: BLOOD: BLOOD PLASMA: ERYTHROCYTES	Andrews, J.W. Hansen, C.G. Metts, J.C., Jr. Metts, J.E. 1980 Proceedings, University of Missouri Annual Conference on Trace Substances in Environmental Health 14:33-42
6720 Blood, platelets	Ingestion	MA	a) 10 b) 8	a) 700-850 ng/g b) 400-150 ng/g	a) Not given b) Not given	a) 1.5-9.5 yr old controls, before breakfast b) 2.5-7.8 yr old patients, low Se diet c) Estimated from urinal Platelet Se levels below normal (600 ng/g) only when Se levels in erythrocytes and plasma very low 6 children with phenylketonuria, 2 with maple-syrup-urine disease, and controls. SELENIUM: NUTRITIONAL DISORDERS: BLOOD: PLATELETS: CHILDREN: ERYTHROCYTES: BLOOD PLASMA	Kasperk, R. Loebck, I. Kien, J. Iyengar, G.V. Sant, R.F. Rosenberg, L.R. Bauer, R.J. 1982 Biological Trace Element Research 4:29-36

(SEE PAGE)

1-800-955-9338

litw 10.96, mp 170-217 C, bp 685 C, vp 1 mm Hg at 356 C, 10 mm Hg at 429 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUBJECT OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6721 Blood, serum	Ingestion	GC	a) 6 b) 20	a) 55-115 µg/ml b) 35-115 µg/ml	a) 78.2 ±0.2 µg/ml b) 55.0 ±0.8 µg/ml	a) Human milk diet, mean Se intake, birth to 3 mo, 16.3 ±0.9 µg/ml, mean daily Se intake at 3 mo 10.08 ±0.2 µg/day b) Formula diet, mean Se intake, birth to 3 mo, 8.6 ±0.9 µg/ml, mean daily Se intake at 3 mo 7.22 ±0.26 µg/day c) Significant higher than b) Se intake group; a) significantly higher than that of group b) Range estimated from graph 3 mo old infants, IL	Saich, A.R. Kicadaso, R.P. Kicadaso, J.A. 1982 American Journal of Clinical Nutrition 35:521-526
6722 Blood, whole		X-ray Spectroscopy	27	Not given	0.2 ppm	ILLINOIS: ADULTS: INFANTS: BLOOD SEBOM: MILK: METALS: SELENIUM; DIETS; FOODS; LACTATION Precision 50% BLOOD: MEASUREMENT METHODS: COPPER; IRON: METALS: RUMINANT; SELENIUM; ZINC	Reame, P.C. Coser, D.A. Mallory, C.J. Umberger, C.J. 1974 Analytical Chemistry 46(4):498-503
6723 Bone		MA	a) 7 b) 5	a) <0.02-0.50 ppm b) <0.06-0.12 ppm	a) 0.040 ppm b) 0.057 ppm Mediana	a) Exposed group b) Controls Actopoles, fear 45-75 yr old factory workers, Sweden. Controls from unpolluted areas AFFRONT: ARSENIC; CADMIUM; COPPER; ZINC; MERCURY; SELENIUM; SILVER; TIN; TUNGSTEN; VANADIUM; ZINC ATMOSPHERE: INDUSTRIAL PLANTS; POPULATION EXPOSURE; SELENIUM; FEDS: COMPARATIVE EVALUATION; SEBOM: AUTOPSIES; OCCUPATIONAL HAZARDS; METALS	Lindh, B. Reame, P.C. Wardner, G. Wardner, P.-O. 1980 Science of the Total Environment 16:109-116
6724 Hair		MA	54	0.46-0.52 µg/g	0.49 µg/g	Range of mean, 5 localities Residents of Iceland ADULTS: HAIR: ARSENIC; CADMIUM; MERCURY; METALS: SELENIUM; ZINC	Johannesson, T. Lunde, G. Steinnes, E. 1981 Acta Pharmacologica et Toxicologica 48:185-189
6725 Hair		MA	1	49.2110 (E-6)-901.7810 (E-6) g/cm cm	237.38210 (E-6) g/cm cm	3 cm segments of single hairs Some samples below detection limits HAIR: HAIR: FORENSIC MEDICINE; RESURFAC METHODS: ANTIMONY; LAPRATING; COPPER; COPPER; GOLD; METALS: SELENIUM; SILVER; CADMIUM; SILVER; ZINC; INDUSTRIAL ATMOSPHERE	Dybczynski, S. Roboll, K. 1976 Journal of Radioanalytical Chemistry 31:267-289
6726 Hair		MA	46	0.45-0.9 µg/g	Not given	Range of mean, estimated from graph Amen, El Farqia, Assuit, Cairo, and Alexandria, Egypt EGYPT: HAIR: HAIR: ANTIMONY; CADMIUM; CESIUM; CHROMIUM; COBALT; IRON; MANGANESE; METALS: MOLYBDENUM; SELENIUM; SELENIUM; SILVER; TUNGSTEN; ZINC; DRINKING WATER; POPULATION EXPOSURE; SOILS; URBAN AREAS	Kasperk, K. Iyengar, G.V. Peleanderson, L.R. Nashab, S. Nashab, M. 1982 Science of the Total Environment 22:149-168

----- PAGE -----

1-800-770-7700

MP 76-76, BP 170-217 C, DP 605 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	MEAN	GENERAL INFORMATION	REFERENCE
6727 Saliv		MA		a) 0.10-0.4 ppa b) 0.50-2.60 ppa c) 0.4-2.53 ppa	a) 1.0 $\pm$ 0.2 b) 1.32 $\pm$ 0.53 ppa c) 1.26 $\pm$ 0.6 ppa	a) 12 cm length, 95 samples b) Root section, 10 samples c) Distal section, 10 samples Metropolitan Bombay, India TEEN: ADOLESCENTS; ADULTS: MALE; ARTISAN: ARTISAN; BROILER: BROILER; CHROMIUM: CHROMIUM; COBALT: COBALT; MANGANESE: MANGANESE; IRON: IRON; SILICON: SILICON; SODIUM: SODIUM; ZINC: ZINC; COPPER: COPPER; FOLLICLE: FOLLICLE; ACCUMULATION: ACCUMULATION; WELDED POWER PLANTS: INDUSTRIAL; AREAS: INDUSTRIAL ATMOSPHERES; INDUSTRIAL EMISSIONS: INDUSTRIAL; POLLUTION: POPULATION EXPOSURE; HUMAN; AREAS: INDUSTRIAL CHEMICALS	Shah, K. R. Kumar, J. Kumar, S. Gangadharan, S. 1982 Science of the Total Environment 22:165-178
6728 Kidney		Fluoroscopy	123	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 1.1 $\pm$ 0.5 ug/g b) 1.2 $\pm$ 0.4 ug/g c) 1.2 $\pm$ 0.4 ug/g d) 1.0 $\pm$ 0.4 ug/g e) 0.8 $\pm$ 0.2 ug/g f) 1.3 $\pm$ 0.2 ug/g g) 1.3 $\pm$ 0.2 ug/g h) 0.7 $\pm$ 0.5 ug/g i) 1.2 $\pm$ 0.5 ug/g	a) all cases b) hypertension, 35 cases c) arteriosclerosis, 43 cases d) Cancer and metastases, 16 cases e) Leukemia, 7 cases f) Brain tumor, 4 cases g) Renal disease, 4 cases h) Other, 28 cases Autopsies Se/Cr ratios greater in patients with cancer and metastases Smoking and nonsmoking patients CADMIUM: METALS; SODIUM: SODIUM; CHLORINE: CHLORINE; HYPERENSION; KIDNEY DISEASES; LEUKEMIA; KIDNEY; SMOKING	Shah, K. R. Kumar, J. 1980 Proceedings, University of Missouri Annual Symposium on Toxic Environmental Health 10:203-210
6729 Liver		MA	30	0.097-0.66 ug/g Not at	Not given	Category 1 (first priority element) as proposed by International Workshop on Monitoring Environmental Materials and Specimen Banking Autopsies, Baltimore, MD, Minneapolis, MN, and Seattle, WA MAYLAND: MANGANESE; WASHINGTON; AUTOPSIES: LIVER; MANGANESE; MANGANESE: ALUMINUM; ARSENIC; ARSENIC: CADMIUM; CHROMIUM; COBALT; COPPER; FLUORINE; IRON; LEAD; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; RUTHENIUM; SODIUM; SILVER; STRONTIUM; THALLIUM; TIN; VANADIUM; ZINC: POPULATION EXPOSURE	Harrison, S. H. Kaiser, R. Wise, S. A. 1981 EPA 600/3-81-025, 6 pp.

UNREF PAGE

Selenium
7782-49-2

Se
At 78.96, BP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	MEAN	GENERAL INFORMATION	REFERENCE
6730 Milk		GC	13	a) 8-38 ng/ml b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 16.3 $\pm$ 0.9 ng/ml b) 11.2 $\pm$ 0.9 ng/ml c) 15.7 $\pm$ 0.9 ng/ml d) 16.3 $\pm$ 0.8 ng/ml e) 18.4 $\pm$ 0.6 ng/ml f) 15.2 $\pm$ 0.2 ng/ml g) 14.1 $\pm$ 0.2 ng/ml h) 15.9 $\pm$ 0.4 ng/ml	a) 8 mothers, sampled 1x/day before nursing, at 1, 2, and 3 mo postpartum b) 4 mothers, colostrum samples from each breast, 1-4 days postpartum c) 1 mother, 1x/day before nursing at 2 wk lactation d) Sampled after nursing at 2 wk lactation e) Sampled before nursing at 1 mo lactation f) Sampled after nursing at 1 mo lactation g) Sampled before nursing at 2 mo lactation h) Sampled after nursing at 2 mo lactation i) 5 mothers sampled 1x/day at 1 and 2 mo lactation j) 1 mother sampled 1x/day at 2 mo lactation k) Significant positive correlation with protein content, $r = 0.49$ Additional data presented Lactating mothers, 1 day-3 mo postpartum, IL TILIOIS: ADULTS: INFANTS; BLOOD SEDS: MILK; METALS: SELENIUM; DIETS; FOODS: LACTATION	Smith, A.H. Picciano, R.F. Singer, J.A. 1982 American Journal of Clinical Nutrition 35:521-526
6731 Hair		MA	48	0.5-0.95 ug/g	Not given	Range of means, estimated from graph Awad, El Kharga, Assuit, Cairo, and Alexandria, Egypt EGYPT: HAIR: NAILS: ANTIMONY; CADMIUM: CHROMIUM: COBALT; IRON: MANGANESE: NICKEL: RUTHENIUM; SCANDIUM: SELENIUM: SILVER: ZINC; ZINC: DRINKING WATER: POPULATION EXPOSURE: SOILS: URBAN AREAS	Kamczek, K. Iyengar, G.V. Velsandegen, L.Z. Rashid, S. Mahfouz, N. 1982 Science of the Total Environment 22:149-168
6732 Urine		Fluorimetry	11	a) 35-61 ng/ml b) 33-36 ng/ml c) 33-63 ng/ml d) 19-248 ng/ml e) 26-240 ng/ml f) 7-95 ng/ml	a) 37 $\pm$ 0.20 ng/ml b) 35 $\pm$ 0.11 ng/ml c) 45 $\pm$ 0.15 ng/ml d) 99 $\pm$ 0.28 ng/ml e) 95 $\pm$ 0.12 ng/ml f) 26 $\pm$ 0.10 ng/ml	a) 24 hr output, based on 7 samples (1 per month) for 7 months, 3 subjects b) Same as a) expressed in terms of creatinine c) Same as a), total Se output d) Spot samples taken over 24 hr in 8 subjects e) Same as d) expressed in terms of creatinine f) Same as d), total Se output Data presented in b) and e) subject to least variation and dilution effect. JAPAN: URINE: MEASUREMENT METHODS: METALS: SELENIUM	Hojo, Y. 1981 Bulletin of Environmental Contamination and Toxicology 27:213-220

Siilicon
7440-21-3

51

Atv 26.066, RP 1410 C, BP 2600 C, VP 1 m Hg at 172a c

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6737 Adrenal gland		ES	7	Not given	46 $\pm$ 26 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNG; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; POTASSIUM; SODIUM; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINCORIN; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36(4): 155-165
6734 Aorta		ES	7	Not given	36 $\pm$ 22 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNG; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; POTASSIUM; SODIUM; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINCORIN; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36(4): 155-165
6735 None		ES	5	Not given	<10 μ g dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNG; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; POTASSIUM; SODIUM; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINCORIN; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36(4): 155-165

(NEXT PAGE)

[illegible]

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	SEAN	GENERAL INFORMATION	REFERENCE
6736 Heart		ES	a) 6 b) 2 c) 3 d) 1 e) 1	a) Not given b) 30-76 ppm c) 43-82 ppm d) Not applicable e) Not applicable Dry wt	a) 18 $\pm$ 6.3 ppm b) 53 ppm c) 62 ppm d) 37 ppm e) 53 ppm Dry wt	a) Normal healthy men b) Choroate painting workers c) Choroate refilling workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXIC; ZIRCONIUM; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36 (4): 155-165
6737 Intestine		ES	0	Not given	31 $\pm$ 14 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXIC; ZIRCONIUM; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36 (4): 155-165
6738 Kidney		ES	a) 6 b) 2 c) 3 d) 1 e) 1	a) Not given b) 33-64 ppm c) 31-68 ppm d) Not applicable e) Not applicable Dry wt	a) 23 $\pm$ 17 ppm b) 48 ppm c) 21 ppm d) 53 ppm e) 42 ppm Dry wt	a) Normal healthy men b) Choroate painting workers c) Choroate refilling workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXIC; ZIRCONIUM; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36 (4): 155-165

SECRET PAGE

ANAL. Calcd. for $C_{10}H_{10}O$: C, 89.08%, H, 7.41%. Found: C, 89.08%, H, 7.41%. IR (KBr): ν_{max} 1720 cm⁻¹ (C=O), 1640 (C=C), 1600 (C=C), 1580 (C=C), 1540 (C=C), 1520 (C=C), 1500 (C=C), 1480 (C=C), 1460 (C=C), 1440 (C=C), 1420 (C=C), 1400 (C=C), 1380 (C=C), 1360 (C=C), 1340 (C=C), 1320 (C=C), 1300 (C=C), 1280 (C=C), 1260 (C=C), 1240 (C=C), 1220 (C=C), 1200 (C=C), 1180 (C=C), 1160 (C=C), 1140 (C=C), 1120 (C=C), 1100 (C=C), 1080 (C=C), 1060 (C=C), 1040 (C=C), 1020 (C=C), 1000 (C=C), 980 (C=C), 960 (C=C), 940 (C=C), 920 (C=C), 900 (C=C), 880 (C=C), 860 (C=C), 840 (C=C), 820 (C=C), 800 (C=C), 780 (C=C), 760 (C=C), 740 (C=C), 720 (C=C), 700 (C=C), 680 (C=C), 660 (C=C), 640 (C=C), 620 (C=C), 600 (C=C), 580 (C=C), 560 (C=C), 540 (C=C), 520 (C=C), 500 (C=C), 480 (C=C), 460 (C=C), 440 (C=C), 420 (C=C), 400 (C=C), 380 (C=C), 360 (C=C), 340 (C=C), 320 (C=C), 300 (C=C), 280 (C=C), 260 (C=C), 240 (C=C), 220 (C=C), 200 (C=C), 180 (C=C), 160 (C=C), 140 (C=C), 120 (C=C), 100 (C=C), 80 (C=C), 60 (C=C), 40 (C=C), 20 (C=C), 0 (C=C).

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSAGE	SEAR	GENERAL INFORMATION	REFERENCE
6739 Liver		ES	a) 9 b) 2 c) 3 d) 1 e) 1 Dry wt	a) Not given b) 22-30 ppm c) 85 ppm d) Not applicable e) Not applicable Dry wt	a) 24 + or - 8.5 ppm b) 42 ppm c) 405 ppm d) 105 ppm e) 230 ppm Dry wt	a) Normal healthy sea b) Chromium plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; SPLEEN; THYROID GLANDS; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; CADMIUM; COPPER; LEAD; MANGANESE; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; XIRCONIUM; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6740 Lung		ES	a) 12 b) 2 c) 3 d) 1 e) 1 Dry wt	a) Not given b) 450-630 ppm c) 230-890 ppm d) Not applicable e) Not applicable Dry wt	a) 190 + or - 280 ppm b) 540 ppm c) 845 ppm d) 810 ppm e) 9500 ppm Dry wt	a) Normal healthy sea b) Chromium plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; SPLEEN; THYROID GLANDS; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; CADMIUM; COPPER; LEAD; MANGANESE; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; XIRCONIUM; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6741 Lymph node		ES	a) 3 b) 1 c) 3 d) 1 e) 1 Dry wt	a) Not given b) 790-990 ppm c) 230-890 ppm d) Not applicable e) Not applicable Dry wt	a) 7000 + or - 3000 ppm b) 1800 ppm c) 1230 ppm d) 105 ppm e) 21000 ppm Dry wt	a) Normal healthy sea b) Chromium plating worker c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; SPLEEN; THYROID GLANDS; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; CADMIUM; COPPER; LEAD; MANGANESE; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; XIRCONIUM; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

--- PAGE ---

Silicon
7440-21-3

SI

RW 28.086, MP 1410 C, BP 2600 C, VP 1 mm Hg at 1724 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	MEAN	GENERAL INFORMATION	REFERENCE
6742 Pancreas		ES	5	Not given	33 $\pm$ 23 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ZINC; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6743 Spleen		ES	43 9 44 2 45 3 46 1 47 1 48 1	a) Not given b) 12-160 ppm c) 46-100 ppm d) Not applicable e) Not applicable Dry wt	48 $\pm$ 45 ppm 96 ppm 103 ppm 130 ppm 3900 ppm Dry wt	a) Normal healthy men b) Chronic flaking workers c) Chronic flaking workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ZINC; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6744 Stomach		ES	10	Not given	31 $\pm$ 18 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ZINC; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(SEE PAGE)

5111con
7480-21-3
51

AtW 28.066, MP 1410 C, SP 2600 C, VP 1 as Hg at 1724 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6785 Thyroid gland		ES	4	Not given	16 $\pm$ 5.0 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; LUNG; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; NICKEL; PHOSPHORUS; POLYBROMINE; SILICON; SODIUM; POTASSIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION: HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZIRCONIUM; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6786 Tongue		ES	2	Not given	17 $\pm$ 9.9 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; NICKEL; PHOSPHORUS; POLYBROMINE; SILICON; SODIUM; POTASSIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION: HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZIRCONIUM; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6787 Trachea		ES	2	Not given	25 $\pm$ 11 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; NICKEL; PHOSPHORUS; POLYBROMINE; SILICON; SODIUM; POTASSIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION: HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZIRCONIUM; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

Silver
7880-22-8
X6
At 107.86R, MP 960.5 C, BP 2000 C, VP 1 mm Hg at 1310 C, 10 mm Hg at 1540 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6740 Mineral gland		ES	7	Not given	<0.03 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LUNG; LUNGS; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; CROTON; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ZINC; ZINC	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6749 Aorta		ES	7	Not given	<0.03 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LUNG; LUNGS; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; CROTON; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ZINC; ZINC	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6750 Rose		ES	5	Not given	<0.3 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LUNG; LUNGS; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; CROTON; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ZINC; ZINC	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6751 Rose	WA		7	<0.003-0.025 ppm	Not given	Autopsies, feces 45-75 yr old factory workers, Sweden AUTOPSY: ARSENIC; CADMIUM; COPPER; LEAD; MERCURY; NICKEL; SILVER; TIN; ZINC; BIOACCUMULATION; INDUSTRIAL ATMOSPHERES; INDUSTRIAL PLANTS; POPULATION EXPOSURE; SHELTERS; SWEDEN; COMPARATIVE EVALUATIONS; SWEDEN; AUTOPSIES; OCCUPATIONAL HAZARDS; METALS	Lindb, D. Brune, D. Karlberg, G. Karlberg, P.-O. 1980 Science of the Total Environment 16:109-116

(CONT. PAGE)

mp 107.868, mp 960.5 C, bp 2000 C, vp 1 mm Hg at 1310 C, 10 mm Hg at 1540 C

CONTINUED

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6752 Hair		H _A	56	46-5810 (P-6)-2643110 (P-6) g/cc cm	99.45 ± 10 (E-6) g/cc cm	3 cm segments of single hairs data from 1 persons, others below detection limits IRIDIUM; HAIR; FORENSIC MEDICINE; HEAVIEST METALS; ANTIMONY; ARSENIC; BROMINE; COPPER; GOLD; LANTHANUM; MANGANESE; MERCURY; METALS; SODIUM; SILVER; SODIUM; STRONTIUM; TUNGSTEN; ZINC; ZINC; DRINKING WATER; POPULATION EXPOSURE; SOILS; URBAN AREAS	Dyckowski, H. Boboli, E. Jurnal of Radioanalytical Chemistry 31:267-269
6753 Hair		H _A	21 samples	180-1450 ng/g	Not given	Range of means, estimated from graph Assaw, El Kharg, Assiut, Cairo, and Alexandria, Egypt EGYPT; HAIR; NAILS; ANTIMONY; COPPER; CADMIUM; CHROMIUM; IRON; MANGANESE; METALS; POLYMER; SCANDIUM; SELENIUM; SILVER; TUNGSTEN; ZINC; DRINKING WATER; POPULATION EXPOSURE; SOILS; URBAN AREAS	Kasparek, K. Isengart, G.V. Feinendeges, L.E. Haskins, S. Nahoum, R. Science of the Total Environment 22:149-166
6754 Hair		H _A		a) 0.07-0.2 ppm b) 0.48-0.93 ppm c) 0.16-2.85 ppm	a) 0.87 sec - 1.1 ppm b) 1.0 sec - 0.7 ppm c) 1.25 sec - 0.3 ppm	d) 12 cm length, 91 samples e) 12 cm length, 16 samples f) 12 cm length, 16 samples g) 12 cm length, 16 samples Metropolitan Bombay, India INDIA; ADOLESCENTS; ADULTS; HAIR; ANTIMONY; ARSENIC; BORON; CADMIUM; CHLORINE; CHROMIUM; COBALT; COPPER; GOLD; IODINE; IRON; LANTHANUM; MANGANESE; MERCURY; MOLYBDENUM; SILVER; SODIUM; STRONTIUM; TUNGSTEN; ZINC; DRINKING WATER; POPULATION EXPOSURE; SOILS; URBAN AREAS; INDUSTRIAL ATMOSPHERES; INDUSTRIAL EMISSIONS; INDUSTRIAL POLLUTION; POPULATION EXPOSURE; URBAN AREAS; INDUSTRIAL CEMENTS	Bhat, K.B. Arumachalam, J. Suganadasarajan, S. Srinivasan, S. Science of the Total Environment 22:169-178
6755 Reart		E _S	a) 6 b) 2 c) 3 d) 1 e) 1	a) Not given b) <0.01-0.04 ppm c) <0.01-0.09 ppm d) Not applicable e) Not applicable Dry wt	a) <0.03 ppm b) Not given c) Not given d) <0.03 e) <0.03 Dry wt	a) Normal healthy men b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN; ADULTS; AUTOPSIES; AVERAGE GLANDS; LIVER; PANCREAS; SPLEEN; TESTES; KIDNEY; LIVER; LUNG; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ADRENAL GLANDS; TESTES; CHROMIUM; COBALT; COPPER; IRON; LEAD; MOLYBDENUM; NICKEL; POTASSIUM; SODIUM; SILICON; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICS; XEROGRAPHY ELEMENTS	Ford, R. 1981 Archives of Environmental Health 36(4):155-165

----- PAGRI -----

Silver
7440-22-e
Rg

Atw 107.668, NP 960.5 C, BP 2000 C, VP 1 mm Hg at 1310 C, 10 mm Hg at 1540 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6756 Intestine		MS	10	Not given	0.06 $\pm$ or- 0.03 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6757 Kidney		MS	a) 8 b) 2 c) 2 d) 1 e) 1	a) Not given b) 0.04-0.05 ppm c) 0.04-0.09 ppm d) Not applicable e) Not applicable dry wt	a) <0.03 ppm b) 0.04 ppm c) 0.06 ppm d) 0.13 ppm e) <0.03 ppm dry wt	a) Normal healthy men b) Chromium plating workers c) Chromium refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6758 Liver		MS	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) 0.04-0.10 ppm c) 0.04-0.10 ppm d) Not applicable e) Not applicable dry wt	a) 0.15 $\pm$ or- 0.39 ppm b) .09 ppm c) .08 ppm d) .06 ppm e) 0.03 ppm dry wt	a) Normal healthy men b) Chromium plating workers c) Chromium refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(SEE PAGE 2)

mp 107.660, BP 960.5 C, BP 2000 C, VP 1 mm Hg at 1310 C, 10 mm Hg at 1540 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6759 Liver		NA	30	0.004-0.07 ug/g Met wt	Not given	Category 2 as proposed by monitoring Yokohama, Japan, and Environmental Materials Agency, Tokyo, S.A. Ranking (non-pollutant trace element monitored for "normal" levels) Autopsies, Baltimore, MD, Mississippi, MN, and Seattle, WA MUTAGEN: XENOPHORA; WASHINGTON; AUTOPSIES: LIVER; MICHIGAN; BYTODS: ALUMINUM; CADMIUM; COBALT; RADIUM; CROMIUM; CHROMIUM; COPPER; COPPER; FLUORINE; IRON; LEAD; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; RUTHENIUM; SELENIUM; SILVER; STRONTIUM; THALLIUM; TIN; VANADIUM; ZINC; POPULATION EXPOSURE	Harrison, S.H. Zeiler, B. Zeiler, S.A. 1981 EPA 600/S1-81-025, 6 pp.
6760 Lung		ES	a) 12 b) 2 c) 3 d) 1 e) 1	a) Not given b) 0.16-0.25 ppm c) <0.03-<0.03 ppm d) Not applicable e) Not applicable Dry wt	a) <0.03 ppm b) 0.20 ppm c) <0.03 ppm d) <0.03 ppm e) <0.03 ppm Dry wt	a) Normal healthy sea b) Chromate plating workers c) Chromate refinishing workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; ADRENALS; BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MOLYBDENUM; NICKEL; POTASSIUM; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HAZARDS; HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6761 Lymph node		ES	a) 3 b) 1 c) 3 d) 1 e) 1	a) Not given b) Not applicable c) <0.06-<0.06 ppm d) Not applicable e) Not applicable Dry wt	a) <0.06 ppm b) <0.06 ppm c) <0.06 ppm d) <0.06 ppm e) <0.06 ppm Dry wt	a) Normal healthy sea b) Chromate plating worker c) Chromate refinishing workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; ADRENALS; BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MOLYBDENUM; NICKEL; POTASSIUM; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HAZARDS; HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

SECRET **PAGE**

Silver
7440-22-4

Bq

Atm 107.668, BP 960.5 C, BP 2000 C, VP 1 mm Hg at 1310 C, 10 mm Hg at 1540 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6762 Mall		MA	19 samples	350-850 ng/g	Not given	Range of means, estimated from graph Ismail, El Sharga, Assiut, Cairo, and Alexandria, Egypt EGYPT: HAIR: NAILS: ANTIPOXY: CANNON: CATION: CHROMIUM: COBALT: IRON: MANGANESE: NICKEL: RUTHENIUM: SODIUM: SILICON: STRONTIUM: TUNGSTEN: ZINC: DRINKING WATER: POPULATION TENDENCY: SOILS: URBAN AREAS	Kamarch, F. Ismail, G. F. Fahim, L. F. Hassan, S. Makhar, M. 1982 Science of the Total Environment 22:169-180
6763 Pancreas		MS	5	Not given	<0.03 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS: ADRENAL: BONES: HEART: INTESTINES: LIVER: LUNGS: LYMPH NODES: PANCREAS: SPLEEN: THYROID GLANDS: THYROID: ADRENAL: ADRENAL: ADRENAL: CHROMIUM: COBALT: CADMIUM: CALCIUM: MANGANESE: NICKEL: IRON: LEAD: MAGNESIUM: MANGANESE: NICKEL: POTASSIUM: SILICON: SILVER: SODIUM: STRONTIUM: TIN: TITANIUM: VANADIUM: ZINC: BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS: TENDENCY: ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6764 Spleen		MS	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) <0.03-0.07 ppm c) <0.03-0.01 ppm d) Not applicable e) Not applicable Dry wt	a) <0.03 ppm b) <0.05 ppm c) <0.03 ppm d) <0.03 ppm e) <0.03 ppm Dry wt	a) Normal healthy men b) Chronic refining workers c) Chronic refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS: ADRENAL: BONES: HEART: INTESTINES: LIVER: LUNGS: LYMPH NODES: PANCREAS: SPLEEN: STOMACH: THYROID GLANDS: THYROID: ADRENAL: ADRENAL: ADRENAL: CHROMIUM: COBALT: CADMIUM: CALCIUM: MANGANESE: NICKEL: IRON: LEAD: MAGNESIUM: MANGANESE: NICKEL: POTASSIUM: SILICON: SILVER: SODIUM: STRONTIUM: TIN: TITANIUM: VANADIUM: ZINC: BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS: TENDENCY: ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(CONT. PAGE)

Silver
7400-22-4R#
EC# 107.860, MP 960.5 C, BP 2000 C, VP 1 mm Hg at 1310 C, 10 mm Hg at 1540 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6765 Stomach		ES	10	Not given	0.06 μ g-0.03 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNG; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALBUMEN; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; RETALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXIC; SINCORIUM; ELEMENTS	Tateoka, H. 1981 Archives of Environmental Health 36(4): 155-165
6766 Thyroid gland		ES	4	Not given	<0.03 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LUNG; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALBUMEN; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; RETALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXIC; SINCORIUM; ELEMENTS	Tateoka, H. 1981 Archives of Environmental Health 36(4): 155-165
6767 Tongue		ES	2	Not given	<0.03 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LUNG; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALBUMEN; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; RETALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXIC; SINCORIUM; ELEMENTS	Tateoka, H. 1981 Archives of Environmental Health 36(4): 155-165

(LEFT PAGE)

Silver
7440-22-4

b1
b-77-00001¹H NMR (CDCl₃) δ: 107.868, BP 960.5°C, BP 2000°C, VP 1 mm Hg at 1310°C, 10 mm Hg at 1540°C.

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SAMPLE RANGE	READ	GENERAL INFORMATION	REFERENCE
6768 TeeChee		N3	Not given	<0.03 -ca- 0.01 ppm dry wt	Mortal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; PANCREAS; SPLEEN; THYROID GLANDS; TRACHEA; UTERUS; VAGINA; OVARY; OVIDUCT; CERVIX; ENDOMETRIUM; BLADDER; PROSTATE; SEMINAL VESICLE; TESTIS; EPIDIDYMUS; PENIS; SKIN; MUSCLE; BLOOD; URINE; Feces; MILK; TEARS; SWEAT; POLYMER: STICKER; METALS: FOTASSIUM; SILICON; ZINC; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALT; HEARDS; OCCUPATIONAL HAZARDS; TOXIC; SIFCONIUM; ELEMENTS	Tsutsuka, H. 1981 Archives of Environmental Health 36 (4):155-165

Section

7040-23-5

to 22.98977, NP 97.62 C, VP 891.0 C, VP 1 mm Hg at 600 C, 10 mm Hg at 546 C

[illegible]

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	HEAT	GENERAL INFORMATION	REFERENCE
6769 Adrenal gland		ES	7	Not given	5200 °C - 1400 °F dry wt	Normal tissue Japan TOXIC: ZINC; CHROMIUM; ELEMENTS: JAPAN; ADULTS; ADIPOSES; ADRENAL GLANDS; ADULTS; ADIPOSES; ADRENAL GLANDS; KIDNEYS; LIVER; HEART; TESTES; KIDNEYS; LIVER; HEART; TESTES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; THYROID; ALBUMEN; BILIRUBIN; CALCIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tsuda, H. 1981 Archives of Environmental Health 36(4): 155-165
6770 Sorta		ES	7	Not given	8700 °C - 2800 °F dry wt	Normal tissue Japan TOXIC: ZINC; CHROMIUM; ELEMENTS: JAPAN; ADULTS; ADIPOSES; ADRENAL GLANDS; ADULTS; ADIPOSES; ADRENAL GLANDS; KIDNEYS; LIVER; HEART; TESTES; KIDNEYS; LIVER; HEART; TESTES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; THYROID; ALBUMEN; BILIRUBIN; CALCIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Tsuda, H. 1981 Archives of Environmental Health 36(4): 155-165

(UNIT PAGE)

----- PAGE -----

Sodium
7640-23-5

Re

Atw 22.96577, BP 57.42 C, BP 601.4 C, VP 1 mm Hg at 44.0 C, 10 mm Hg at 54.6 C

(CONTINUED)

Y133E	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6771 Meat		MS	5	Not given	8100 ±or- 2100 ppm dry wt	Meat tissue Japan TONGUE: MERCURY; ELEMENTS; JAPAN; ADULTS: ANTPOXES; ADRENAL GLANDS; ADULTS: BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIODISTRIBUTION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6772 Meat		MS		a) 24-330 ppm b) 38-304 ppm c) 22-220 ppm	a) 94 ±or- 75 ppm b) 107 ±or- 84 ppm c) 90 ±or- 74 ppm	a) 12 cm length, 104 samples b) Root section, 18 samples c) Distal section, 18 samples Metropolitan Bombay, India INDIA: ADOLESCENTS; ADULTS; HAIR; APTIOX; ARSENIC; BROMINE; CADMIUM; CHLORINE; CHROMIUM; COBALT; COPPER; GOLD; IODINE; IRON; LANTHANUM; MANGANESE; POTASSIUM; SCANDIUM; SELENIUM; SILVER; SODIUM; TINC; AIR POLLUTION; BIODISTRIBUTION; FOSSIL FUELED POWER PLANTS; INDUSTRIAL WASTE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIODISTRIBUTION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Shat, K.R. Arumachalas, J. Tegasaakrasian, S. Sagadharan, S. 1982 Science of the Total Environment 22:169-178
6773 Meat		MS	6	Not given	5600 ±or- 1300 ppm dry wt	Meat tissue Japan TONGUE: MERCURY; ELEMENTS; JAPAN; ADULTS: ANTPOXES; ADRENAL GLANDS; ADULTS: BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIODISTRIBUTION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(SEE PAGE)

Sodium
7440-23-5

Re

ReN 22-96977, MP 97.82 C, BP 881.6 C, VP 1 mm Hg at 440 C, 10 mm Hg at 546 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	SINCE	MEAN	GENERAL INFORMATION	REFERENCE
6774 Intestine		ES	10	Not given	4300 $\pm$ or - 1200 ppm dry wt	Normal tissue Japan TONGUE; ZINCUM; ELEMENTS; JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; STOMACH; THYROID GLANDS; TESTES; ALUMINUM; BARIUM; CADIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MOLYBDENUM; MANGANESE; NICKEL; POTASSIUM; SILICON; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6775 Spleen		ES	8	Not given	10000 $\pm$ or - 3400 ppm dry wt	Normal tissue Japan TONGUE; ZINCUM; ELEMENTS; JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; STOMACH; THYROID GLANDS; TESTES; ALUMINUM; BARIUM; CADIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MOLYBDENUM; MANGANESE; NICKEL; POTASSIUM; SILICON; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6776 Liver		ES	9	Not given	5900 $\pm$ or - 1900 ppm dry wt	Normal tissue Japan TONGUE; ZINCUM; ELEMENTS; JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; STOMACH; THYROID GLANDS; TESTES; ALUMINUM; BARIUM; CADIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MOLYBDENUM; MANGANESE; NICKEL; POTASSIUM; SILICON; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

Sodium
7400-23-5

AT 22.98977, MP 97.42 C, BP 681.0 C, VP 1 mm Hg at 440 C, 10 mm Hg at 346 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	SEAR	GENERAL INFORMATION	REFERENCE
6777 Lung		ES	12	Not given	11600 $\pm$ or - 2700 ppm dry wt	Normal tissue Japan TONGUE: ZINCORUM; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; TESTES; KIDNEYS: LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Terakawa, H. 1981 Archives of Environmental Health 36(4): 155-165
6778 Lymph node		ES	3	Not given	6200 $\pm$ or - 2100 ppm dry wt	Normal tissue Japan TONGUE: ZINCORUM; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; TESTES; KIDNEYS: LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Terakawa, H. 1981 Archives of Environmental Health 36(4): 155-165
6779 Pancreas		ES	5	Not given	7100 $\pm$ or - 2900 ppm dry wt	Normal tissue Japan TONGUE: ZINCORUM; ELEMENTS: JAPAN; ADULTS: AUTOPSIES; ADRENAL GLANDS; ADULTS: BONES; HEART; TESTES; KIDNEYS: LIVER; LUNGS; LYMPH NODES; SPLEEN; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Terakawa, H. 1981 Archives of Environmental Health 36(4): 155-165

(NEXT PAGE)

Sodium
7440-23-5

10

litw 22.98977, mp 97.82 C, bp 861.4 C, vp 1 mm Hg at 400 C, 10 mm Hg at 546 C

(CONTINUED)

TISSUE	BIOPROCESS ROUTE	ANALYTICAL METHOD	MURDER OF CASES	SINGLE	MEAN	GENERAL INFORMATION	REFERENCE
6780 Spleen		ES	9	Not given	5200 +/- 1700 ppm dry wt	Normal tissue Japan TONGUE; ZINCORUM; ELEMENTS; JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; TESTICLES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; STOMACH; THYROID; GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIEN; TUNGSTEN; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Terakoba, K. 1981 Archives of Environmental Health 36(4): 155-165
6781 Stomach		ES	10	Not given	4300 +/- 1200 ppm dry wt	Normal tissue Japan TONGUE; ZINCORUM; ELEMENTS; JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; TESTICLES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; STOMACH; THYROID; GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIEN; TUNGSTEN; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Terakoba, K. 1981 Archives of Environmental Health 36(4): 155-165
6782 Thyroid gland		MS	8	Not given	6000 +/- 1300 ppm dry wt	Normal tissue Japan TONGUE; ZINCORUM; ELEMENTS; JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; TESTICLES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; STOMACH; THYROID; GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIEN; TUNGSTEN; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Terakoba, K. 1981 Archives of Environmental Health 36(4): 155-165

PAGE

Sodium
7440-23-5

Re

ACW 22.96977, MP 97.82 C, EP 881.6 C, VP 1 mm Hg at 440 C, 10 mm Hg at 546 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6783 Tongue		ES	2	Not given	3000 $\pm$ or - 0 p.p.m dry wt	Normal tissue Japan TONGUE: ZINCORUM; ELEMENTS: JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; LIVER; LUNGS; LYMPH NODES; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; URINARY BLADDER; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36 (4): 155-165
6784 Trachea		ES	2	Not given	8600 $\pm$ or - 3400 p.p.m dry wt	No sal tissue Japan TONGUE: ZINCORUM; ELEMENTS: JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; LIVER; LUNGS; LYMPH NODES; PANCREAS; STOMACH; THYROID GLANDS; TRACHEA; URINARY BLADDER; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS	Teraoka, H. 1981 Archives of Environmental Health 36 (4): 155-165

Strontium
7440-28-6

SC

ACW 87.62, MP 357 C, EP 1366 C, VP 10 mm Hg at 898 C, 1 mm Hg at 740 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6785 Adrenal gland		ES	7	Not given	0.41 $\pm$ or - 0.20 p.p.m dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MOLYBDENUM; MANGANESE; METALS; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; STRONTIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINCORUM; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36 (4): 155-165

(EXIT PAGE)

87.62, 88.35 C. 89.136 C. 90.10 88 89 90 C. 1 88 89 90 C

CONTINUED

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6786 Aorta		ES	7	Not given	2.1 $\pm$ 0.68 ppm dry wt	Total tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNG; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICOLOGY; ZINC; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36(4):155-165
6787 Bone		ES	5	Not given	22 $\pm$ 7.5 ppm dry wt	Total tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNG; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICOLOGY; ZINC; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36(4):155-165
6788 Hair		MA	5	2.810 (E-6) - 113.10 (E-6) g/cu cm	16.13 (E-6) g/cu cm	3 cm segments of single hairs Some samples below detection limits IPIDIS; HAIR; FORENSIC MEDICINE; MEASUREMENT METHODS; ANALYTICAL; ASBESTOS; BROMINE; COPPER; GOLD; LAMPHARD; MANGANESE; MERCURY; METALS; SODIUM; SILVER; SODIUM; STRONTIUM; ZINC; INDUSTRIAL ATMOSPHERES	Dicranaki, B. Babol, K. 1976 Journal of Occupational Medicine 18(1):267-269
6789 Heart		ES	41 8 41 2 41 3 41 4 41 5	Not given 2.7-2.3 ppm 1.2-7.1 ppm Not applicable 2.3 ppm 1.2 ppm Dry wt	a) 0.24 $\pm$ 0.08 ppm b) 1.0 ppm c) 3.9 ppm d) 2.3 ppm e) 1.2 ppm Dry wt	Total tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNG; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICOLOGY; ZINC; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36(4):155-165

NEXT PAGE

bp 87.62, mp 357 C, η_P 10 mm Hg at 198 C, 1 mm Hg at 760 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUBSET OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6790 Intestine		MS	10	Not given a) 0.54 b) 0.77 c) 2.3 d) 3.3 e) 1.9 f) 0.75 Dry wt	0.54 ±0.22 ppm Dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; TESTICULAR GLANDS; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; RETALS; POLYBROMINE; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; BONES; ELEMENTS	Yatsuka, H. 1981 Archives of Environmental Health 36(4): 155-165
6791 Kidney		MS	8 a) 0 b) 2 c) 1 d) 1 e) 1 f) 1 Not applicable Dry wt	Not given a) 1.2-2.0 ppm b) 0.89-4.5 ppm c) 2.3 ppm d) 3.3 ppm e) 1.9 ppm f) 0.75 ppm Dry wt	0.38 ±0.09 ppm a) 1.6 ppm b) 2.3 ppm c) 3.3 ppm d) 3.3 ppm e) 1.9 ppm f) 0.75 ppm Dry wt	Normal healthy men Chroaite plating workers Chroaite refining workers Airplane painter Stone season Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; TESTICULAR GLANDS; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; RETALS; POLYBROMINE; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; BONES; ELEMENTS	Yatsuka, H. 1981 Archives of Environmental Health 36(4): 155-165
6792 Liver		MS	9 a) 0 b) 2 c) 3 d) 1 e) 1 f) 1 Not applicable Dry wt	Not given a) 0.35-1.2 ppm b) 0.77 ppm c) 2.0-4.2 ppm d) 3.3 ppm e) 1.9 ppm f) 0.75 ppm Dry wt	0.20 ±0.07 ppm a) 1.6 ppm b) 2.3 ppm c) 3.3 ppm d) 3.3 ppm e) 1.9 ppm f) 0.75 ppm Dry wt	Normal healthy men Chroaite plating workers Chroaite refining workers Airplane painter Stone season Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; TESTICULAR GLANDS; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; RETALS; POLYBROMINE; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; BONES; ELEMENTS	Yatsuka, H. 1981 Archives of Environmental Health 36(4): 155-165

(UNITED STATES)

At 87.62, MP 157°C, IR 1366 C, ν 10 mm Hg at 690°C, ν 20 mm Hg at 740°C

(Continued)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6793 Liver			30	0-01 ug/g wet wt	Not given	Category 3 as proposed by International Workshop on Monitoring of Chemicals in Food and Specimen Banking (trace elements of environmental importance not included in first priority list)	Barisano, S.H. Zolotar, R. Vine, S.A. EPA 600/3-81-025, 6 pp.
6794 Lung		ES	a) 12 b) 2 c) 3 d) 1 e) 1	a) Not given b) 1.7-2.1 ppm c) 1.8-6.8 ppm d) Not applicable e) Not applicable Dry wt	a) 0.55 ug- 0.14 ppm b) 1.9 ppm c) 4.2 ppm d) 2.4 ppm e) 2.2 ppm Dry wt	Normal healthy men Chromate refining workers Airplane painter Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; BONES; BOWEL; HEART; LIVER; LUNGS; TESTES; KIDNEYS; SPLEEN; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYROID; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CERIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HAZARDS; TOXICITY; OCCUPATIONAL HAZARDS; TOBACCO; ZINCURION; ELEMENTS	Tateoka, H. Archives of Environmental Health 36(4): 155-165
6795 Lymph node		ES	a) 3 b) 3 c) 3 d) 1 e) 1	a) Not given b) Not applicable c) 2-3 ppm d) Not applicable e) Not applicable Dry wt	a) 3.4 ug- 1.8 ppm b) 3.5 ppm c) 7.1 ppm d) 4.1 ppm e) 5.0 ppm Dry wt	Normal healthy men Chromate plating workers Chromate refining workers Airplane painter Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYROID; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CERIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HAZARDS; TOXICITY; OCCUPATIONAL HAZARDS; TOBACCO; ZINCURION; ELEMENTS	Tateoka, H. Archives of Environmental Health 36(4): 155-165

----- PAGE -----

Strontium
7480-28-6

52

ACR 87-62, BP 357 C, BP 1366 C, VP 10 mm Hg at 590 C, 1 mm Hg at 740 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6796 Pancreas		ES	5	Not given	0.26 $\mu\text{g/g}$ dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; MICKEL; MOLYBDENUM; NICKEL; POTASSIUM; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINCORIN; ELEMENTS	Tateoka, H. 1981 Archives of Environmental Health 36(4):155-165
6797 Spleen		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) 0.40-2.7 $\mu\text{g/g}$ c) 1.1-5.5 $\mu\text{g/g}$ d) Not applicable e) Not applicable dry wt	a) 0.23 $\mu\text{g/g}$ b) 1.6 $\mu\text{g/g}$ c) 3.8 $\mu\text{g/g}$ d) 5.2 $\mu\text{g/g}$ e) 0.91 $\mu\text{g/g}$ dry wt	a) Normal healthy man b) Chromate plating workers c) Airplane painter d) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; MICKEL; MOLYBDENUM; NICKEL; POTASSIUM; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINCORIN; ELEMENTS	Tateoka, H. 1981 Archives of Environmental Health 36(4):155-165
6798 Stomach		ES	10	Not given	0.58 $\mu\text{g/g}$ dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; MICKEL; MOLYBDENUM; NICKEL; POTASSIUM; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINCORIN; ELEMENTS	Tateoka, H. 1981 Archives of Environmental Health 36(4):155-165

(SEE PAGE)

mp 87.62, bp 357 C, bp 1366 C, vp 10 mm Hg at 890 C, 1 mm Hg at 740 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DIAGNOSIS	REMARK	GENERAL INFORMATION	REFERENCE
6799 Thyroid gland		MS	4	Not given	0.61 μ g/g - 0.21 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNG; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ZINC; ZINC	Tsutsui, H. 1981 Archives of Environmental Health 36(4): 155-165
6800 Tongue		MS	2	Not given	0.21 μ g/g - 0 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNG; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ZINC; ZINC	Tsutsui, H. 1981 Archives of Environmental Health 36(4): 155-165
6801 Trachea		MS	2	Not given	0.79 μ g/g - 0.44 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNG; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ZINC; ZINC	Tsutsui, H. 1981 Archives of Environmental Health 36(4): 155-165

MP 108.10, BP -21 C, DP 165-166 C, VP 39.0 atm at 370.0 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	SOURCE	MEAN	GENERAL INFORMATION	REFERENCE
6802 Blood	Inhalation Dermal	GC/MS	6	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given l) Not given	a) 0.16 $\pm$ 0.05 ug/ml b) 1.22 $\pm$ 0.49 ug/ml c) 0.17 $\pm$ 0.11 ug/ml d) 0.17 $\pm$ 0.08 ug/ml e) 0.31 $\pm$ 0.16 ug/ml f) 0.16 $\pm$ 0.05 ug/ml g) 0.17 $\pm$ 0.07 ug/ml h) 0.94 $\pm$ 0.12 ug/ml i) 0.20 $\pm$ 0.08 ug/ml j) 0.16 $\pm$ 0.09 ug/ml k) 0.20 $\pm$ 0.13 ug/ml l) 0.12 $\pm$ 0.04 ug/ml	a) Pre-work, no protective clothing b) End of 8 hr work-shift, group a) c) 16 hr post-shift, group a) d) Pre-work, wearing respirator e) End of 8 hr work-shift, group d) f) 16 hr post-shift, group d) g) Pre-work, wearing polyvinyl alcohol gloves and protective clothing h) End of 8 hr work-shift, group g) i) Pre-work, wearing gloves j) Protective clothing, and respirator k) End of 8 hr work-shift, group j) l) 16 hr post-shift, group j) Mean ambient air levels during work-shift, 40-90 ppm (estimated from group j) End of work-shift levels for groups a) and d) were significantly lower than groups not using respirators. All values returned to control levels by following morning Workers with extensive exposure in manufacture of fibrous glass boats, sockets, & consoles ADULTS; BLOOD; RESPIRATORY SYSTEMS; AIR POLLUTION; INDUSTRIAL ATMOSPHERES; INDUSTRIAL PLANTS; INHALATION; METABOLISM; METABOLITES; OCCUPATIONAL HAZARDS; INDUSTRIAL CHEMICALS; INDUSTRIAL HYGIENE	Brooks, S.R. Anderson, L. Cassett, R. Chernin, R. Tsay, J.-T. Ella, V. Bucher, R. Koroway, R. 1980 Archives of Environmental Health 35(5):287-294
6803 Breath	Inhalation Dermal	GC/MS	8	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given l) Not given	a) 1.59 $\pm$ 0.84 ug/l b) 0.46 $\pm$ 0.26 ug/l c) 2.04 $\pm$ 0.78 ug/l d) 1.70 $\pm$ 0.55 ug/l e) 2.86 $\pm$ 1.08 ug/l f) 1.37 $\pm$ 0.26 ug/l g) 2.07 $\pm$ 1.49 ug/l h) 0.55 $\pm$ 0.26 ug/l i) 1.74 $\pm$ 0.54 ug/l j) 1.42 $\pm$ 0.59 ug/l k) 2.98 $\pm$ 1.74 ug/l l) 1.26 $\pm$ 0.55 ug/l	a) Pre-work, no protective clothing b) End of 8 hr work-shift, group a) c) 16 hr post-shift, group a) d) Pre-work, wearing respirator e) End of 8 hr work-shift, group d) f) 16 hr post-shift, group d) g) Pre-work, wearing polyvinyl alcohol gloves and protective clothing h) End of 8 hr work-shift, group g) i) Pre-work, wearing gloves j) Protective clothing, and respirator k) End of 8 hr work-shift, group j) l) 16 hr post-shift, group j) Mean time of sample 10.2 $\pm$ 6.3 min after leaving work area Mean ambient air levels during work-shift, 40-90 ppm (estimated from group j) End of work-shift levels for groups a) and d) were significantly lower than groups not using respirators. All values returned to control levels by following morning Workers with extensive exposure in manufacture of fibrous glass boats, sockets, & consoles ADULTS; BLOOD; RESPIRATORY SYSTEMS; AIR POLLUTION; INDUSTRIAL ATMOSPHERES; INDUSTRIAL PLANTS; INHALATION; METABOLISM; METABOLITES; OCCUPATIONAL HAZARDS; INDUSTRIAL CHEMICALS; INDUSTRIAL HYGIENE	Brooks, S.R. Anderson, L. Cassett, R. Chernin, R. Tsay, J.-T. Ella, V. Bucher, R. Koroway, R. 1980 Archives of Environmental Health 35(5):287-294

styrene (8 CI)
Benzene, ethenyl- (9 CI)
100-42-5

CE-MR
NW 108.10, WP -31 C, BP 185-186 C, VP 39.8 ata at 37% a C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6806 Urine	Inhalation Dermal	GC	6	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 149 + or - 108 mg/g creatinine b) 1130 + or - 591 mg/g creatinine c) 248 + or - 110 mg/g creatinine d) 194 + or - 115 mg/g creatinine e) 128 + or - 87 mg/g creatinine f) 301 + or - 165 mg/g creatinine g) 280 + or - 217 mg/g creatinine h) 262 + or - 232 mg/g creatinine	a) Mandelic acid, pre-work, no protective equipment b) Mandelic acid, end of shift, no protective equipment c) Mandelic acid, pre-work, protective equipment d) Mandelic acid, end of shift, protective equipment e) Mandelic acid, end of shift, protective equipment (pda) f) Pre-work, protective equipment g) pda, end of shift, no protective equipment h) pda, pre-work, protective equipment i) pda, end of shift, protective equipment j) pda, end of shift, protective equipment k) Styrene metabolites l) Ambient air levels, 60-90 ppm (estimated from graph) m) Workers with extensive exposure in manufacture of fibrous glass boats, 4 smokers, 4 nonsmokers n) ADULTS: BLOOD: URINE: STYRENE: AIR POLLUTION: INDUSTRIAL HYGIENE: INDUSTRIAL PLANTS: VIBRATION: METABOLITES: OCCUPATIONAL HAZARDS: INDUSTRIAL CHEMICALS: INDUSTRIAL HYGIENE	Roberts, S.R. Adams, L. Barnett, E. Carson, A. Teay, J.-T. Sila, V. Buncher, E. Kardosky, E. 1980 Archives of Environmental Health 35(3):287-294
6805 Urine		GC	55	a) 16-2500 mg/g creatinine b) 2-2100 mg/g creatinine	a) Not given b) Not given	a) Mandelic acid and phenylglyoxylic acids b) Mandelic acid only c) After stress exposure of 2.8-8.3 a ppm (8 hr. time-weighted average) d) Post shift samples e) Plant factory employees f) ADULTS: UNITED STATES: URINE: METABOLITE METHODS: STYRENE: HEALTH HAZARDS: INDUSTRIAL ATMOSPHERES: METABOLITES: OCCUPATIONAL HAZARDS: INDUSTRIAL CHEMICALS	Sila, V.J. Anderson, L.A. Macdonald, T.J. Carson, A. Buncher, C.B. 1980 Toxicology 20:81-90

Succinic acid, 3-oxo-2-(alpha-carboxyphenethyl)-, 8-ethyl ester, stereoisomer (8 CI) (VAB)

2-Phenylsuccinic acid, 8-ethyl ester (9 CI)

148-819-82-05

NW 294.30, WP 246-247 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6806 Blood, plasma	Ingestion		34	a) 5.66-12.0 umol/dl b) 4.83-6.95 umol/dl c) 2.43-7.84 umol/dl d) 4.40-7.84 umol/dl e) 4.40-5.86 umol/dl f) 3.77-4.29 umol/dl	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) Phenylalanine, 12 normal males b) Phenylalanine, 10 normal females c) Phenylalanine, 12 females d) Carotidous to phenylketonuria e) Tyrosine, same as b) f) Tyrosine, same as b) g) Tyrosine, same as c) h) Range of means i) Dose in mg/kg aspartate j) Slower rate of metabolism of aspartate for heterozygous females k) CALIFORNIA: BLOOD: BLOOD PLASMA: AMINO ACIDS: SWEETENING AGENTS	Steyink, L.B. Koch, B. Blaskovics, M.E. Piller, L.J., Jr. Baker, G.K. Hannell, J.E. 1981 Toxicology 20:81-90

Sulfide, methyl propyl (8 CI)
Propene, 1-(2-ethylthio)- (9 CI)
3877-15-4
C4-810-S
RW 90-19, RP -113 C, RP 95-54 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	REFERENCE
6807 Breath		GC/MS	26	1-8.4 ug/l	3 ug/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Liquid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROBIPHENYLS Krotoszynski, B. Gardiel, G. O'Neill, M. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

tert-Butyl dimethide (8 CI)
Dimethide, bis(1,1-dichloroethyl) (9 CI)
110-04-5
C8-818-S2
RW 178-36

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	REFERENCE
6808 Breath		GC/MS	26	0.1-4 ug/l	0.65 ug/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Liquid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROBIPHENYLS Krotoszynski, B. Gardiel, G. O'Neill, M. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

Thallium
7840-28-0
51

Atv 204-37, RP 303-5 C, RP 1457 C, RP 1 ug Hg at 825 C, 10 ug Hg at 1000 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	REFERENCE
6809 Liver			30	0.001-0.009 ug/g wet wt	Not given	Category 1 (first priority element) as proposed by International Workshop on Monitoring Environmental Materials and Specimen Banking Autopsies, Baltimore, MD. Pittsford, NY, and Seattle, WA MAYLAND: MINNESOTA: WASHINGTON: AUTOPSIES: LIVER: MASSACHUSETTS: MINNESOTA: ALABAMA: ARIZONA: ARSENIC: FABRIG: CADMIUM: CHROMIUM: CORALIT: COPPER: FLUORINE: IRON: LEAD: MANGANESE: MERCURY: MOLYBDENUM: NICKEL: NIOBIUM: SELENIUM: SILVER: STRONTIUM: THALLIUM: TIT: VANADIUM: ZINC: POPULATION EXPOSURE Harrison, S.H. Kessler, P. Wise, S.A. 1981 EPA 600/S1-81-025, 6 pp.

Thiocyanic acid, iso(1-1) (0 C1)
Thiocyanate (N C1)
102-04-5
C1
MW 58.08

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6810 Blood		AAS	72	a) Not given b) Not given c) Not given d) Not given	a) 38.6 $\mu\text{g}/\text{ml}$ - 26.7 b) 100.9 $\mu\text{g}/\text{ml}$ - 50.2 c) 33.6 $\mu\text{g}/\text{ml}$ - 22.0 d) 81.2 $\mu\text{g}/\text{ml}$ - 19.1	a) Maternal blood, 31 nonsmokers b) Maternal blood, 41 smokers c) Cord blood, 31 nonsmokers d) Cord blood, 41 smokers e) 31 women, active labor f) 31 women, immediately after delivery g) 31 women, significantly greater than a) h) significantly greater than c) Mean age 22 and 23 yr, mean infant birth wt 3094 and 3436 g, mean gestation time 39.0 and 38.8 wk for smokers and nonsmokers, respectively. C1C: ADMITS; NEWBORN: BLOOD; PLACENTA: COMPARATIVE EVALUATIONS; CAPTION: METALS; THIOCYANATES; BIOACCUMULATION; HEALTH HAZARDS; PREGNANCY; SMOKING	Kuhbert, P.M. Kuhbert, B.B. Bottom, S.F. Erhard, P. 1982 American Journal of Obstetrics and Gynecology 142:1021

Thiocyclopentane (No postings in CHEMLIST).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6811 Breath		GC/MS	28	0.28-2.8 ng/l	0.9 ng/l	Tested from glass Healthy 18-40 yr olds, nonsmokers. Blind protocol 14 days before and during study to minimize number and amount of exogenous constituents. A1M23; SPEARS; RECORDS; CHEMOPHORE CEMATIC C-400425; CHEMOPHORES	Kotomayaki, P. Garcia, C. C'Neill, H. Claudio, W.P.A. 1977 Journal of Chromatographic Science 15:239-244

Thioether (No postings in CHEMLIST).
C8-H10-S

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6812 Urine	Inhalation Dermal	Chce	224	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 47 $\mu\text{g}/\text{ml}$ - 1.8 b) 37 $\mu\text{g}/\text{ml}$ - 1.6 c) 40 $\mu\text{g}/\text{ml}$ - 1.5 d) 40 $\mu\text{g}/\text{ml}$ - 1.5 e) 40 $\mu\text{g}/\text{ml}$ - 1.5 f) 40 $\mu\text{g}/\text{ml}$ - 1.5 g) 40 $\mu\text{g}/\text{ml}$ - 1.5 h) 40 $\mu\text{g}/\text{ml}$ - 1.5 i) 40 $\mu\text{g}/\text{ml}$ - 1.5 j) 40 $\mu\text{g}/\text{ml}$ - 1.5 k) 40 $\mu\text{g}/\text{ml}$ - 1.5 l) 40 $\mu\text{g}/\text{ml}$ - 1.5 m) 40 $\mu\text{g}/\text{ml}$ - 1.5 n) 40 $\mu\text{g}/\text{ml}$ - 1.5 o) 40 $\mu\text{g}/\text{ml}$ - 1.5 p) 40 $\mu\text{g}/\text{ml}$ - 1.5 q) 40 $\mu\text{g}/\text{ml}$ - 1.5 r) 40 $\mu\text{g}/\text{ml}$ - 1.5 s) 40 $\mu\text{g}/\text{ml}$ - 1.5 t) 40 $\mu\text{g}/\text{ml}$ - 1.5 u) 40 $\mu\text{g}/\text{ml}$ - 1.5 v) 40 $\mu\text{g}/\text{ml}$ - 1.5 w) 40 $\mu\text{g}/\text{ml}$ - 1.5 x) 40 $\mu\text{g}/\text{ml}$ - 1.5 y) 40 $\mu\text{g}/\text{ml}$ - 1.5 z) 40 $\mu\text{g}/\text{ml}$ - 1.5	a) 90 men, workers b) 61 men, controls c) 23 women, workers d) 48 women, controls e) 6 women, heavy skin contamination f) 8 women, moderate skin contamination g) 3 women, light skin contamination h) 3 women, no skin contamination i) 3 women, no skin contamination j) 3 women, no skin contamination k) 3 women, no skin contamination l) 3 women, no skin contamination m) 3 women, no skin contamination n) 3 women, no skin contamination o) 3 women, no skin contamination p) 3 women, no skin contamination q) 3 women, no skin contamination r) 3 women, no skin contamination s) 3 women, no skin contamination t) 3 women, no skin contamination u) 3 women, no skin contamination v) 3 women, no skin contamination w) 3 women, no skin contamination x) 3 women, no skin contamination y) 3 women, no skin contamination z) 3 women, no skin contamination	Elphick, I. 1978 British Journal of Industrial Medicine 35:98-100

NOTE: INDUSTRIAL HYGIENE; INDUSTRIAL MEDICINE; HEALTH HAZARDS; INDUSTRIAL PLANTS; OCCUPATIONAL HAZARDS; TOXICITY; TOXICOLOGY; INDUSTRIAL CHEMICALS

Thelma, Isotope of mass 228
18278-02-9
Th
232.0381, mp approx 150 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	CENTRAL INFORMATION	REFERENCE
6813 Body	Inhalation	ES Radiometry	1	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given l) Not given m) Not given n) Not given	a) 11.2 $\pm$ 0.8 mCi b) 10.5 $\pm$ 0.8 mCi c) 10.3 $\pm$ 0.8 mCi d) 8.3 $\pm$ 0.5 mCi e) 47 f) 68 g) 103 h) 7.7 $\pm$ 0.3 mCi i) 11.4 $\pm$ 0.3 mCi j) 3.7 k) 6 mCi l) 2 mCi m) 1.5 mCi n) 0.75 mCi	a) 0 b) 5 c) 10 d) 17 e) 68 f) 103 g) 157 h) 257 i) 327 j) 500 k) 1000 l) 1500 m) 2000 n) 2500 Days after first measurement Values are Bi-212 content from whole-body counting j) - m) estimated from graph Laboratory water contaminated with radium form, between Sept 1962 and Dec 1963	Beeton, D. Rado, J. Eakins, J.D. Health Physics 80:291-298
6816 Urine	Inhalation	ES Radiometry	1	9-0.3 pCi/day	Not given	Alpha-activity 0 to 2600 days after day of first measurement Laboratory water contaminated, presumably through inhalation of thorium in oxide form, between Sept 1962 and Dec 1963 Thorium; Bismuth; Industrial Accidents; Inhalation; Radioisotopes; ECDF; Urine; In Vivo Analysis	Beeton, D. Rado, J. Eakins, J.D. Health Physics 80:291-298

7440-31-5
Zn
110.69

[illegible]

UNIT	PAGE
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

REV 110.69, MP 231.9 C. MP 2507 C. VP 1 mg at 1610 C, 10 mg at 1890 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6816 Aorta		ES	7	Not given	0.74 wt- 0.39 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNG; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; POLYDROMES; RICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINCORIN; ELEMENTS	Teraoka, H. 1991 Archives of Environmental Health 36(4): 155-165
6817 Bone		ES	5	Not given	<4.0 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNG; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINCORIN; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4): 155-165
6818 Bone		EA	a) 7 b) 5	a) 0.03-1.2 ppm b) 0.08-1.4 ppm Median	a) 0.09 ppm b) 0.10 ppm Median	a) Exposed group b) Controls Autopsies, femur 85-75 yr old factory workers, Sweden. Controls from unpolluted areas AUT: NOB; ARSENIC; CADMIUM; COPPER; LEAD; MERCURY; SILVER; TIN; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINCORIN; ELEMENTS	Linsh, H. 1980 Archives of Environmental Health 36(4): 155-165

---(NEXT PAGE)---

71a
7400-31-5

SP
AN 110.69, MP 231.9 C, BP 2501 C, VP 1 aa Rq at 1610 C, 10 aa Rq at 1890 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6819 Heart		ES	a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) 0.38-0.59 ppm c) 0.75 ppm d) Not applicable e) Not applicable Dry wt	a) 0.59 $\pm$ 0.25 ppm b) 0.48 ppm c) 0.75 ppm d) 0.35 ppm e) 0.35 ppm Dry wt	a) Normal healthy men b) Chromium plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; UTERUS; VESICULAR GLANDS; CAECUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINCUM; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6820 Intestine		ES	10	Not given	0.88 $\pm$ 0.55 ppm Dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; UTERUS; VESICULAR GLANDS; CAECUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINCUM; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6821 Kidney		ES	a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) 0.40-1.7 ppm c) 0.36-1.6 ppm d) Not applicable e) Not applicable Dry wt	a) 0.72 $\pm$ 0.25 ppm b) 1.0 ppm c) .87 ppm d) 0.49 ppm e) 0.33 ppm Dry wt	a) Normal healthy men b) Chromium plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; UTERUS; VESICULAR GLANDS; CAECUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINCUM; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

Tin
7440-31-5

Sn

At 118.6%, MP 231.9 C, BP 2507 C, VP 1 mm Hg at 1610 C, 10 mm Hg at 1890 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6822 Liver		ES	a) 9 b) 2 c) 3 d) 1 e) 1	Not given b) 1.1-3.2 ppm c) 1.3-1.7 ppm d) Not applicable e) Not applicable Dry wt	a) 1.1 *or- 0.41 ppm b) 2.2 ppm c) 1.5 ppm d) 0.93 ppm e) 0.5 ppm Dry wt	a) Normal healthy men b) Chromium plating workers c) Chromium refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; ADRENAL BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALBUMEN; BILIRUBIN; CALCIUM; CHOLESTEROL; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINCURIN; ELEMENTS	Tetsuka, H. 1981 Archives of Environmental Health 36(4):155-165
6823 Liver			30	0.03-0.65 ug/g Not wt	Not given	Category I (first priority element) as proposed by International Workshop on Reducing Environmental Materials and Specimen Banking Autopsies, Baltimore, MD. Minneapolis, MN, and Seattle, WA MARYLAND: MINNESOTA: WASHINGTON: AUTOPSIES: LIVER; MEASUREMENT METHODS: ALUMINUM; ANTIMONY; ARSENIC; BARIUM; CADMIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; POPULATION EXPOSURE	Harrison, S.H. 1961 Zeller, P. 1961 Wick, S.A. 1961 EPA 600/51-81-025, 6 pp.
6824 Lung		ES	a) 12 b) 2 c) 3 d) 1 e) 1	Not given b) 3.1-9.6 ppm c) 3.7-100 ppm d) Not applicable e) Not applicable Dry wt	a) 1.5 *or- 0.80 ppm b) 6.3 ppm c) 10.2 ppm d) 1.7 ppm e) 1.0 ppm Dry wt	a) Normal healthy men b) Chromium plating workers c) Chromium refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; ADRENAL BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALBUMEN; BILIRUBIN; CALCIUM; CHOLESTEROL; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINCURIN; ELEMENTS	Tetsuka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

mp 110.69, mp 231.9 C, bp 2507 C, vp 1 mm Hg at 1610 C, 10 mm Hg at 1890 C

(Continued)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6825 Lymph node		ES	a) 3 b) 1 c) 3 d) 1 e) 1	a) Not given b) Not applicable c) 5.2-100 ppm d) Not applicable e) Not applicable Dry wt	a) 3.8 $\pm$ 0.1-1.3 ppm b) 3.8 ppm c) 5.9 ppm d) 5.9 ppm e) 6.7 ppm Dry wt	a) Normal healthy men b) Chromium plating worker c) Airplane refinishing workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICOLOGY; ELEMENTS	Tsutsuki, H. 1981 Archives of Environmental Health 36(4):155-165
6826 Pancreas		ES	a) 5	a) Not given	a) 0.43 $\pm$ 0.17 ppm Dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICOLOGY; ELEMENTS	Tsutsuki, H. 1981 Archives of Environmental Health 36(4):155-165
6827 Spleen		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) 2.2-2.3 ppm c) 0.31-2.5 ppm d) Not applicable e) Not applicable Dry wt	a) 0.55 $\pm$ 0.37 ppm b) 0.2 ppm c) 1.6 ppm d) 0.32 ppm e) 0.30 ppm Dry wt	a) Normal healthy men b) Chromium plating workers c) Airplane refinishing workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; TESTES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICOLOGY; ELEMENTS	Tsutsuki, H. 1981 Archives of Environmental Health 36(4):155-165

WWW PAGE

7440-31-5

26

At 110.69, #P 231.9 C, #P 2407 C, #P 1.00 Bq at 1610 C, 10 mm Bq at 1690 C

(CONTINUED)

TISSUE	EXPOSURE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	REFERENCE
6828 Stomach	ES	Not given	10	0.88 $\pm$ 0.55 ppe dry wt	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6829 Thyroid gland	ES	Not given	4	0.37 $\pm$ 0.25 ppe dry wt	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6830 Tongue	ES	Not given	2	0.40 $\pm$ 0.02 ppe dry wt	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

T1a
7040-31-5

ΔH 110-69, M_p 231.9 C, M_n 2507 C, V_P 188 g at 1610 C, 19 mm sq at 1090 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	GRAIN	GENERAL INFORMATION	REFERENCE
6831 Trachea		ES	2	Not given	0.72 μ or- 0.54 kPa dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSY: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; THYROID GLANDS; TRACHEA; ALIMENTARY TRACT; COLIC; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIB; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH EFFECTS; OCCUPATIONAL HAZARDS; TOXIC; ACCIDENT; ELEMENTS	Torokata, N. 1991 Archives of Environmental Health 36(4):155-163

Titanium
7000-32-6

Td
new 67.90. HP 1677 C. BP 3277 C. VP 1 and HQ at 2160 C. 10 mm Hg at 2380 C.

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6832 Adrenal gland		ES	7	Not given	1.0 μCi -0.69 μCi dry wt	Normal tissue Autopsies Japan JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; KIDNEY; LUNG; LUNGOS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HAZARDS; OCCUPATIONAL HAZARDS; TOBACCO; ZINC OXIDE; ELEMENTS	Yasaka, H. 1981 Archives of Environmental Health 36(4):155-165
6833 Bovine		ES	7	Not given	0.45 μCi -0.29 μCi dry wt	Normal tissue Autopsies Japan JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; KIDNEY; LIVER; LUNGOS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HAZARDS; OCCUPATIONAL HAZARDS; TOBACCO; ZINC OXIDE; ELEMENTS	Yasaka, H. 1981 Archives of Environmental Health 36(4):155-165

1000

Vitamin
7400-32-6

Atw 47.90, MP 1677 C, BP 3277 C, VP 1 mm Hg at 2160 C, 10 mm Hg at 2480 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6817 Kidney		ES	a) 0 b) 2 c) 3 d) 1 e) 1	a) Not given b) 0.20-0.94 ppa c) 0.26-0.95 ppa d) Not applicable e) Not applicable Dry wt	a) 0.27 ± 0.08 ppa b) 0.12 ppa c) 0.58 ppa d) 0.1 ppa e) 1.7 ppa Dry wt	a) Normal healthy sea b) Chromium plating workers c) Chromium refining workers d) Airplane painter e) Stone seamer Autopsies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; URICACIUM; URETERS	Tateoka, H. 1981 Archives of Environmental Health 36(4):155-165
6836 Liver		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) 0.26-0.74 ppa c) 0.46-1.7 ppa d) Not applicable e) Not applicable Dry wt	a) 0.37 ± 0.18 ppa b) 0.50 ppa c) 0.93 ppa d) 2.9 ppa e) 12 ppa Dry wt	a) Normal healthy sea b) Chromium plating workers c) Chromium refining workers d) Airplane painter e) Stone seamer Autopsies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; URICACIUM; URETERS	Tateoka, H. 1981 Archives of Environmental Health 36(4):155-165
6839 Lung		ES	a) 12 b) 2 c) 3 d) 1 e) 1	a) Not given b) 9.2-22 ppa c) 23-210 ppa d) Not applicable e) Not applicable Dry wt	a) 33 ± 12 ppa b) 15.6 ppa c) 89 ppa d) 920 ppa e) 110 ppa Dry wt	a) Normal healthy sea b) Chromium plating workers c) Chromium refining workers d) Airplane painter e) Stone seamer Autopsies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; URICACIUM; URETERS	Tateoka, H. 1981 Archives of Environmental Health 36(4):155-165

(LEFT PAGE)

Titanium
7000-32-6

At 47.50, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180, 185, 190, 195, 200, 205, 210, 215, 220, 225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 285, 290, 295, 300, 305, 310, 315, 320, 325, 330, 335, 340, 345, 350, 355, 360, 365, 370, 375, 380, 385, 390, 395, 400, 405, 410, 415, 420, 425, 430, 435, 440, 445, 450, 455, 460, 465, 470, 475, 480, 485, 490, 495, 500, 505, 510, 515, 520, 525, 530, 535, 540, 545, 550, 555, 560, 565, 570, 575, 580, 585, 590, 595, 600, 605, 610, 615, 620, 625, 630, 635, 640, 645, 650, 655, 660, 665, 670, 675, 680, 685, 690, 695, 700, 705, 710, 715, 720, 725, 730, 735, 740, 745, 750, 755, 760, 765, 770, 775, 780, 785, 790, 795, 800, 805, 810, 815, 820, 825, 830, 835, 840, 845, 850, 855, 860, 865, 870, 875, 880, 885, 890, 895, 900, 905, 910, 915, 920, 925, 930, 935, 940, 945, 950, 955, 960, 965, 970, 975, 980, 985, 990, 995, 1000, 1005, 1010, 1015, 1020, 1025, 1030, 1035, 1040, 1045, 1050, 1055, 1060, 1065, 1070, 1075, 1080, 1085, 1090, 1095, 1100, 1105, 1110, 1115, 1120, 1125, 1130, 1135, 1140, 1145, 1150, 1155, 1160, 1165, 1170, 1175, 1180, 1185, 1190, 1195, 1200, 1205, 1210, 1215, 1220, 1225, 1230, 1235, 1240, 1245, 1250, 1255, 1260, 1265, 1270, 1275, 1280, 1285, 1290, 1295, 1300, 1305, 1310, 1315, 1320, 1325, 1330, 1335, 1340, 1345, 1350, 1355, 1360, 1365, 1370, 1375, 1380, 1385, 1390, 1395, 1400, 1405, 1410, 1415, 1420, 1425, 1430, 1435, 1440, 1445, 1450, 1455, 1460, 1465, 1470, 1475, 1480, 1485, 1490, 1495, 1500, 1505, 1510, 1515, 1520, 1525, 1530, 1535, 1540, 1545, 1550, 1555, 1560, 1565, 1570, 1575, 1580, 1585, 1590, 1595, 1600, 1605, 1610, 1615, 1620, 1625, 1630, 1635, 1640, 1645, 1650, 1655, 1660, 1665, 1670, 1675, 1680, 1685, 1690, 1695, 1700, 1705, 1710, 1715, 1720, 1725, 1730, 1735, 1740, 1745, 1750, 1755, 1760, 1765, 1770, 1775, 1780, 1785, 1790, 1795, 1800, 1805, 1810, 1815, 1820, 1825, 1830, 1835, 1840, 1845, 1850, 1855, 1860, 1865, 1870, 1875, 1880, 1885, 1890, 1895, 1900, 1905, 1910, 1915, 1920, 1925, 1930, 1935, 1940, 1945, 1950, 1955, 1960, 1965, 1970, 1975, 1980, 1985, 1990, 1995, 2000, 2005, 2010, 2015, 2020, 2025, 2030, 2035, 2040, 2045, 2050, 2055, 2060, 2065, 2070, 2075, 2080, 2085, 2090, 2095, 2100, 2105, 2110, 2115, 2120, 2125, 2130, 2135, 2140, 2145, 2150, 2155, 2160, 2165, 2170, 2175, 2180, 2185, 2190, 2195, 2200, 2205, 2210, 2215, 2220, 2225, 2230, 2235, 2240, 2245, 2250, 2255, 2260, 2265, 2270, 2275, 2280, 2285, 2290, 2295, 2300, 2305, 2310, 2315, 2320, 2325, 2330, 2335, 2340, 2345, 2350, 2355, 2360, 2365, 2370, 2375, 2380, 2385, 2390, 2395, 2400, 2405, 2410, 2415, 2420, 2425, 2430, 2435, 2440, 2445, 2450, 2455, 2460, 2465, 2470, 2475, 2480, 2485, 2490, 2495, 2500, 2505, 2510, 2515, 2520, 2525, 2530, 2535, 2540, 2545, 2550, 2555, 2560, 2565, 2570, 2575, 2580, 2585, 2590, 2595, 2600, 2605, 2610, 2615, 2620, 2625, 2630, 2635, 2640, 2645, 2650, 2655, 2660, 2665, 2670, 2675, 2680, 2685, 2690, 2695, 2700, 2705, 2710, 2715, 2720, 2725, 2730, 2735, 2740, 2745, 2750, 2755, 2760, 2765, 2770, 2775, 2780, 2785, 2790, 2795, 2800, 2805, 2810, 2815, 2820, 2825, 2830, 2835, 2840, 2845, 2850, 2855, 2860, 2865, 2870, 2875, 2880, 2885, 2890, 2895, 2900, 2905, 2910, 2915, 2920, 2925, 2930, 2935, 2940, 2945, 2950, 2955, 2960, 2965, 2970, 2975, 2980, 2985, 2990, 2995, 3000, 3005, 3010, 3015, 3020, 3025, 3030, 3035, 3040, 3045, 3050, 3055, 3060, 3065, 3070, 3075, 3080, 3085, 3090, 3095, 3100, 3105, 3110, 3115, 3120, 3125, 3130, 3135, 3140, 3145, 3150, 3155, 3160, 3165, 3170, 3175, 3180, 3185, 3190, 3195, 3200, 3205, 3210, 3215, 3220, 3225, 3230, 3235, 3240, 3245, 3250, 3255, 3260, 3265, 3270, 3275, 3280, 3285, 3290, 3295, 3300, 3305, 3310, 3315, 3320, 3325, 3330, 3335, 3340, 3345, 3350, 3355, 3360, 3365, 3370, 3375, 3380, 3385, 3390, 3395, 3400, 3405, 3410, 3415, 3420, 3425, 3430, 3435, 3440, 3445, 3450, 3455, 3460, 3465, 3470, 3475, 3480, 3485, 3490, 3495, 3500, 3505, 3510, 3515, 3520, 3525, 3530, 3535, 3540, 3545, 3550, 3555, 3560, 3565, 3570, 3575, 3580, 3585, 3590, 3595, 3600, 3605, 3610, 3615, 3

(CONTINUED)

TISSUE	EXPOSURE NOTE	ANALYTICAL METHOD	SAMPLES OF CASES	RESULTS	REMARKS	REMARKS	GENERAL INFORMATION	REFERENCE
6640 Lymph node		MS	a) 3 b) 1 c) 3 d) 1 e) 1	a) Not given b) Not applicable c) 28-45 ppm d) Not applicable e) Not applicable Dry wt	a) 150 μ g/g b) 36 ppm c) 52 ppm d) 2800 ppm e) 330 ppm Dry wt		a) Normal healthy men b) Chronic plating workers c) Chronic refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS: TOXICITY: XIPICOMIN; ELEMENTS	Tetsuka, H. 1981 Archives of Environmental Health 36(4):155-165
6641 Pancreas		MS	5	Not given	0.42 μ g/g dry wt		Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS: TOXICITY: XIPICOMIN; ELEMENTS	Tetsuka, H. 1981 Archives of Environmental Health 36(4):155-165
6642 Spleen		MS	a) 9 b) 3 c) 3 d) 1 e) 1	a) Not given b) 0.13-2.0 ppm c) 1.6 ppm d) Not applicable e) Not applicable Dry wt	a) 0.94 μ g/g b) 1.36 ppm c) 1.6 ppm d) 13 ppm e) 13 ppm Dry wt		a) Normal healthy men b) Chronic plating workers c) Chronic refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION: HEALTH HAZARDS: OCCUPATIONAL HAZARDS: TOXICITY: XIPICOMIN; ELEMENTS	Tetsuka, H. 1981 Archives of Environmental Health 36(4):155-165

----- PAGE -----

Titanium
7440-32-6

TI

REV 47-90, RP 1677 C, RP 3277 C, RP 1 440 Mg at 2160 C, 10 440 Mg at 2480 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
4883 Stomach		ES	10	Not given	0.51 $\mu\text{g/g}$ dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ELEMENTS	Teraoka, R. 1981 Archives of Environmental Health 36(4):155-165
6884 Thyroid gland		ES	8	Not given	0.17 $\mu\text{g/g}$ dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ELEMENTS	Teraoka, R. 1981 Archives of Environmental Health 36(4):155-165
6885 Tongue		ES	2	Not given	0.39 $\mu\text{g/g}$ dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ELEMENTS	Teraoka, R. 1981 Archives of Environmental Health 36(4):155-165

(SEE PAGE 2)

Toluene (8 CI)
Benzene, methyl- (9 CI)
100-88-3
C7-H8
MW 92.13, BP -95 to -94.5 C, BP 110.6 C, VP 36.7 mm Hg at 30 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUBJECTS OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
Urine	Inhalation	GC	a) 19 b) 19 c) 18 d) 19 e) 18	a) 4.208-0.680 g/l b) 1.403-0.130 g/l c) 0.598-0.2 g/l d) 39.590-40.968 g/l e) 3.483-6.900 g/l	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable	a) Hippuric acid, 0 and 48 hr. Preexposure level 0.423 g/l b) o-Cresol, 0 and 48 hr. Preexposure level 0.159 g/l c) a-Cresol, 0 and 48 hr. Preexposure level 0.2 g/l d) a-Cresol, 0 and 48 hr. Preexposure level 31.206 g/l e) Phenol, 0 and 20 hr. Preexposure level 4.869 g/l Toluene metabolites, after 8 hr exposure to 200 ppm in air. INDUSTRIAL CHEMICALS; ADULTS; BLOOD; URINE; TOLUENE; INHALATION; METABOLITES; GERMANY	Seivde, R. Orzech, R. 1981 British Journal of Industrial Medicine 38: 194-197

Toluene, o-nitro- (8 CI)
Benzene, 1-methyl-2-nitro- (9 CI)
100-88-3
C7-H7-NO2
MW 137.1, BP -8.1 C, BP 222.3 C, VP 1 mm Hg at 50 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUBJECTS OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6851 Breath		GC/MS	26	0.03-0.15 g/l	0.07 g/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Liquid protocol 15 days before and during study to minimize number and amount of exogenous constituents. ADULTS; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROPHENOLS	Krotosky, B. Gabriel, G. O'Neill, R. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

Tungsten
7440-33-7
MW 183.85, BP 3410 C, BP 5900 C, VP 1 mm Hg at 3980 C, 10 mm Hg at 4490 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUBJECTS OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6852 Hair		HA	51	0.005-0.037 ug/g	Not given	Range of means, estimated from graph Lebanon, El Khayr, Assuit, Cairo, and Alexandria, Egypt EGYPT; HAIR; NAILS; ANTIMONY; CADMIUM; CESIUM; CHROMIUM; COBALT; IRON; MANGANESE; METALS; MOLYBDENUM; SCANDIUM; SELENIUM; SILVER; TUNGSTEN; ZINC; DRINKING WATER; POPULATION EXPOSURE; SOILS; URBAN AREAS	Kasper, R. Iyengar, G.V. Felendogen, L.R. Kishida, S. Nakamura, H. 1982 Science of the Total Environment 22:149-168

(NEXT PAGE)

Tungsten
7000-33-7

1963-65, at 3410 C, 30 500 C, 12 1 00 00 at 3500 C, 10 00 00 at 4000 C

(Continued)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	CRITICAL INFORMATION	REFERENCE
6853 Mall		RA	63	0.008-0.036 ug/g	Not given	Range of acene, estimated from graph Aswan, El Farqeq, Assuit, Cairo, and Alexandria, Egypt EGYPT; HAIR; NAILS; AMYNOBY; ADMON; CISION; CHROMIUM; COBALT; TUNGSTEN; ZINC; ZIRCONIUM; SILICON; MAGNESI; METALS; MOLYBDENUM; SODIUM; STRONTIUM; TELLUR; THORIUM; ZINC; DRINKING WATER; CONTAMINATION EPOSUBP; SOILS; URBAN AREAS	Kamarch, K. Yousar, G. V. Peleandegon, L. R. Habibah, S. Mahfouz, M. 1982 Science of the Total Environment 22:149-168

Valeric acid, ethyl ester (8 CI)
Pentanoic acid, ethyl ester (9 CI)

Pentanoic acid, ethyl ester (9 CI)

39-02-2

02-014-02
170 10

130.10, BP 145-146 C

TOXIC	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
443a Breath		GC/MS	26	0.06-0.5 ng/l	0.19 ng/l	Estimated from graph Healthy 16-60 yr olds, nonsmokers. Rigid protocol 16 days before and during study to minimize habit and amount of exogenous constituents. AGENTS: BREATH; ALCOHOLS; CHLORINE SPECIFIC COMPOUNDS; CHLOROBIPHENYLS	Protonenaki, B. Gabriel, G. O'Malley, R. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:230-244

entpasa

7000-62-2

At 50.0 g/l, BP 1917 C, BP 3000 C, VP 1 mm Hg at 2290 C, 10 mm Hg at 2570 C

[illegible]

(NEXT PAGE)

Yamada
740-62-2

At 50.9810, MP 1917 C, BP 3000 C, VP 1 m Hg at 2290 C, 10 mm Hg at 257 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6856 Heart		ES	7	Not given	1.7 $\pm$ 0.67 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HAZARDS; TOXICITY; ZIRCONIUM; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6857 Blood		BA		a) 0.038-0.039 μ g/mL b) 0.016-0.139 μ g/mL	a) Not given b) Not given	a) Men b) Women Healthy subjects BELGIUM: BLOOD; METALS; VANADIUM	Correia, R. Vernieck, J. 1981 Lancet 2(8256):1179
6858 Bone		ES	5	Not given	19 $\pm$ 3.0 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HAZARDS; TOXICITY; ZIRCONIUM; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6859 Heart		ES	a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) 0.62-0.70 ppm c) 0.30-0.70 ppm d) Not applicable e) Not applicable Dry wt	a) <0.4 ppm b) 0.66 ppm c) 1.2 ppm d) 0.76 ppm Dry wt	a) Normal healthy men b) Cholesterol plating workers c) Cholesterol refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HAZARDS; TOXICITY; ZIRCONIUM; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

Vanadium

7400-62-2

V

Ats 50.941g, MP 1917 C, BP 3000 C, VP 1 mm Hg at 2290 C, 10 mm Hg at 2570 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6860 Intestine		ES	10	Not given	0.49 $\pm$ 0.24 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; ADRENAL; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6861 Kidney		ES	a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) 0.72-1.1 ppm c) 0.82-1.5 ppm d) Not applicable e) Not applicable dry wt	a) 0.67 $\pm$ 0.35 ppm b) 0.91 ppm c) 1.24 ppm d) 1.7 ppm e) 0.81 ppm dry wt	Normal healthy men a) Chromate plating workers b) Chromate refining workers c) Airplane painter d) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; ADRENAL; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6862 Liver		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) 0.72-1.1 ppm c) 0.82-1.5 ppm d) Not applicable e) Not applicable dry wt	a) 0.37 $\pm$ 0.08 ppm b) Not given c) 1.9 ppm d) 1.8 ppm e) 0.81 ppm dry wt	Normal healthy men a) Chromate plating workers b) Chromate refining workers c) Airplane painter d) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; ADRENAL; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(SEE PAGE)

Needles
7440-62-2

AW 50.0a1a, RP 1917 C, BP 1000 C, EP 1 100 Hg at 2250 C, 10 100 Hg at 2570 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6663 Liver			30	<0.007-0.09 ug/g wet wt	Not given	Category 1 (first priority element) as proposed by International Workshop on Human Health Effects of Selected Environmental Materials and Specimen Banking Autopsies, Baltimore, MD, Minneapolis, MN, and Seattle, WA MARYLAND: BIRMINGHAM: WASHINGTON: AUTOPSIES: LIVER: NEARSHOREMENT METHODS: ALUMINUM: ARSENIC: ANTIMONY: BARIUM: BISMUTH: CADMIUM: CHROMIUM: COBALT: COPPER: IRON: LEAD: MANGANESE: MERCURY: MOLYBDENUM: NICKEL: NIOBIUM: SILICON: SILVER: SODIUM: STRONTIUM: TUNGSTEN: TITANIUM: VANADIUM: ZINC: POPULATION EXPOSURE	Harrison, S.B. Sessler, R. 1981 EPA 600/51-81-025, 6 pp.
6664 Lung		ES	a) 12 b) 2 c) 2 d) 1 e) 1	a) Not given b) 1.6-1.7 ppm c) 1.6-2.0 ppm d) 2.4 ppm e) 3.1 ppm Dry wt	a) <0.6 ppm b) 1.6 ppm c) 2.4 ppm d) 3.1 ppm e) 3.1 ppm Dry wt	a) Normal healthy men b) Chromate plating workers c) Chromate refining workers d) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS: AORTA: BONES: HEART: LIVER: LUNG: PANCREAS: SPLEEN: STOMACH: THYROID GLANDS: TRACHEA: ALUMINUM: BARIUM: CADMIUM: CHROMIUM: COBALT: COPPER: IRON: LEAD: MANGANESE: MERCURY: MOLYBDENUM: NICKEL: NIOBIUM: SILICON: SILVER: SODIUM: STRONTIUM: TUNGSTEN: TITANIUM: VANADIUM: ZINC: POPULATION EXPOSURE	Tateoka, H. 1981 Archives of Environmental Health 36(4):155-165
6665 Lymph node		ES	a) 3 b) 3 c) 3 d) 1 e) 1	a) Not given b) Not applicable c) 1.7-4.1 ppm d) Not applicable e) Not applicable Dry wt	a) 0.8-0.2-2.7 ppm b) 2.0 ppm c) 2.9 ppm d) 2.7 ppm e) 6.0 ppm Dry wt	a) Normal healthy men b) Chromate plating worker c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS: AORTA: BONES: HEART: LIVER: LUNG: PANCREAS: SPLEEN: STOMACH: THYROID GLANDS: TRACHEA: ALUMINUM: BARIUM: CADMIUM: CHROMIUM: COBALT: COPPER: IRON: LEAD: MANGANESE: MERCURY: MOLYBDENUM: NICKEL: NIOBIUM: SILICON: SILVER: SODIUM: STRONTIUM: TUNGSTEN: TITANIUM: VANADIUM: ZINC: POPULATION EXPOSURE	Tateoka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

ANAL. Calcd for $C_{10}H_{10}O$: C, 88.10%; H, 7.41%. Found: C, 88.10%; H, 7.41%. IR (KBr): ν_{max} 1715 (C=O), 1640 (C=C), 1610 (C=C), 1580 (C=C), 1540 (C=C), 1520 (C=C), 1490 (C=C), 1470 (C=C), 1450 (C=C), 1430 (C=C), 1410 (C=C), 1390 (C=C), 1370 (C=C), 1350 (C=C), 1330 (C=C), 1310 (C=C), 1290 (C=C), 1270 (C=C), 1250 (C=C), 1230 (C=C), 1210 (C=C), 1190 (C=C), 1170 (C=C), 1150 (C=C), 1130 (C=C), 1110 (C=C), 1090 (C=C), 1070 (C=C), 1050 (C=C), 1030 (C=C), 1010 (C=C), 990 (C=C), 970 (C=C), 950 (C=C), 930 (C=C), 910 (C=C), 890 (C=C), 870 (C=C), 850 (C=C), 830 (C=C), 810 (C=C), 790 (C=C), 770 (C=C), 750 (C=C), 730 (C=C), 710 (C=C), 690 (C=C), 670 (C=C), 650 (C=C), 630 (C=C), 610 (C=C), 590 (C=C), 570 (C=C), 550 (C=C), 530 (C=C), 510 (C=C), 490 (C=C), 470 (C=C), 450 (C=C), 430 (C=C), 410 (C=C), 390 (C=C), 370 (C=C), 350 (C=C), 330 (C=C), 310 (C=C), 290 (C=C), 270 (C=C), 250 (C=C), 230 (C=C), 210 (C=C), 190 (C=C), 170 (C=C), 150 (C=C), 130 (C=C), 110 (C=C), 90 (C=C), 70 (C=C), 50 (C=C), 30 (C=C), 10 (C=C).

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6866 Pancreas		ES	5	Not given	<0.4 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; ADIPS; BONES; HEART; INTERSTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; ZINC; BIOACCUMULATION; HAZARDS: OCCUPATIONAL HAZARDS: TONGUE; ZINCORION; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36(4):155-165
6867 Spleen		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) <0.4-2.0 ppm c) 0.81-3.5 ppm d) Not applicable e) Not applicable Dry wt	a) <0.4 ppm b) Not given c) 2.2 ppm d) 3.5 ppm e) 1.3 ppm Dry wt	a) Normal healthy men b) Chronic Plating workers c) Chronic Shipyard workers d) Airplane Painter e) Stone Mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; ADIPS; BONES; HEART; INTERSTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; ZINC; BIOACCUMULATION; HAZARDS: OCCUPATIONAL HAZARDS: TONGUE; ZINCORION; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36(4):155-165
6868 Stomach		ES	10	Not given	0.49 wt-% 0.24 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; ADIPS; BONES; HEART; INTERSTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; ZINC; BIOACCUMULATION; HAZARDS: OCCUPATIONAL HAZARDS: TONGUE; ZINCORION; ELEMENTS	Terada, H. 1981 Archives of Environmental Health 36(4):155-165

DATE	DESCRIPTION	AMOUNT	CHECK NO.	BANK	INITIALS	PAGE
10/1/78	...	...	...	...	...	...
10/2/78	...	...	...	...	...	...
10/3/78	...	...	...	...	...	...
10/4/78	...	...	...	...	...	...
10/5/78	...	...	...	...	...	...
10/6/78	...	...	...	...	...	...
10/7/78	...	...	...	...	...	...
10/8/78	...	...	...	...	...	...
10/9/78	...	...	...	...	...	...
10/10/78	...	...	...	...	...	...
10/11/78	...	...	...	...	...	...
10/12/78	...	...	...	...	...	...
10/13/78	...	...	...	...	...	...
10/14/78	...	...	...	...	...	...
10/15/78	...	...	...	...	...	...
10/16/78	...	...	...	...	...	...
10/17/78	...	...	...	...	...	...
10/18/78	...	...	...	...	...	...
10/19/78	...	...	...	...	...	...
10/20/78	...	...	...	...	...	...
10/21/78	...	...	...	...	...	...
10/22/78	...	...	...	...	...	...
10/23/78	...	...	...	...	...	...
10/24/78	...	...	...	...	...	...
10/25/78	...	...	...	...	...	...
10/26/78	...	...	...	...	...	...
10/27/78	...	...	...	...	...	...
10/28/78	...	...	...	...	...	...
10/29/78	...	...	...	...	...	...
10/30/78	...	...	...	...	...	...
10/31/78	...	...	...	...	...	...
11/1/78	...	...	...	...	...	...
11/2/78	...	...	...	...	...	...
11/3/78	...	...	...	...	...	...
11/4/78	...	...	...	...	...	...
11/5/78	...	...	...	...	...	...
11/6/78	...	...	...	...	...	...
11/7/78	...	...	...	...	...	...
11/8/78	...	...	...	...	...	...
11/9/78	...	...	...	...	...	...
11/10/78	...	...	...	...	...	...
11/11/78	...	...	...	...	...	...
11/12/78	...	...	...	...	...	...
11/13/78	...	...	...	...	...	...
11/14/78	...	...	...	...	...	...
11/15/78	...	...	...	...	...	...
11/16/78	...	...	...	...	...	...
11/17/78	...	...	...	...	...	...
11/18/78	...	...	...	...	...	...
11/19/78	...	...	...	...	...	...
11/20/78	...	...	...	...	...	...
11/21/78	...	...	...	...	...	...
11/22/78	...	...	...	...	...	...
11/23/78	...	...	...	...	...	...
11/24/78	...	...	...	...	...	...
11/25/78	...	...	...	...	...	...
11/26/78	...	...	...	...	...	...
11/27/78	...	...	...	...	...	...
11/28/78	...	...	...	...	...	...
11/29/78	...	...	...	...	...	...
11/30/78	...	...	...	...	...	...
12/1/78	...	...	...	...	...	...
12/2/78	...	...	...	...	...	...
12/3/78	...	...	...	...	...	...
12/4/78	...	...	...	...	...	...
12/5/78	...	...	...	...	...	...
12/6/78	...	...	...	...	...	...
12/7/78	...	...	...	...	...	...
12/8/78	...	...	...	...	...	...
12/9/78	...	...	...	...	...	...
12/10/78	...	...	...	...	...	...

1

NEW 50.9412, HP 1917 C, BP 3000 C, VN 1 00 HQ at 2799 C, 10 00 HQ at 2570 C

(continued)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6669 Thyroid gland		ES	8	Not given	<0.67 $\pm$ or- 0.19 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; KIDNEYS; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; UTERUS; VAGINA; OVARY; TESTIS; PROSTATE; BLADDER; RECTUM; COLON; CERVIX; UTERUS; VAGINA; PANCREAS; SPLEEN; SKELETAL TISSUE; MOLTEDERM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZIRCONIUM; ELEMENTS	Tetsuka, H. 1991 Accumulation of Environmental Health 36(9):155-165
6870 Tongue		ES	2	Not given	<0.4 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; KIDNEYS; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; UTERUS; VAGINA; OVARY; TESTIS; PROSTATE; BLADDER; RECTUM; COLON; CERVIX; UTERUS; VAGINA; PANCREAS; SPLEEN; SKELETAL TISSUE; MOLTEDERM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZIRCONIUM; ELEMENTS	Tetsuka, H. 1991 Accumulation of Environmental Health 36(9):155-165
6871 Trachea		ES	2	Not given	1.1 $\pm$ or- 0.45 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; KIDNEYS; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; UTERUS; VAGINA; OVARY; TESTIS; PROSTATE; BLADDER; RECTUM; COLON; CERVIX; UTERUS; VAGINA; PANCREAS; SPLEEN; SKELETAL TISSUE; MOLTEDERM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZIRCONIUM; ELEMENTS	Tetsuka, H. 1991 Accumulation of Environmental Health 36(9):155-165

Vitamin A

1110-57-a

EXACT COMPOSITION UNKNOWN OR UNDETERMINED

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6872 Blood, serum			10	a) 2.87-11.00 IU/ml b) 2.66-10.20 IU/ml	a) 5.88 $\pm$ 0.89 b) 5.39 $\pm$ 0.53 IU/ml	a) Before heodialysis b) After 8 hr heodialysis Slight decrease after heodialysis did not justify supplementation Patients with chronic uremia CAROTENOIDS; KIDNEY DISORDERS; BLOOD SERUM; HEMODIALYSIS; VITAMIN A; ISRAEL	Fellish, L. Shinn, O. Shinn, R. 1978 Journal of the American Medical Association 239(8):751

Zinc
7800-66-6Zn
AR 65.38, AP 419.5 C, BP 908 C, VP 1 mm Hg at 897 C, 10 mm Hg at 550 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6873 Adrenal gland	BS		7	Not given	69 $\pm$ 40 ppm dry wt	Normal tissue Autopsies Japan JAPAN; ADULTS; AUTOPSY; ADRENAL GLANDS; ADRENAL; BONES; SPLEEN; INTESTINES; KIDNEY; LIVER; LUNG; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ADRENAL; BONE; BONE; CALCIUM; CHROMIUM; COPPER; COPPER; IRON; LEAD; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; SILICON; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; METALS; FACADES; OCCUPATIONAL; METALS; TONGUE; ZINC; ZINC; ZINC	Teraoka, N. 1981 Archives of Environmental Health 36(4):155-165
6874 Aorta	BS		7	Not given	43 $\pm$ 14 ppm dry wt	Normal tissue Autopsies Japan JAPAN; ADULTS; AUTOPSY; ADRENAL GLANDS; ADRENAL; BONES; SPLEEN; INTESTINES; KIDNEY; LIVER; LUNG; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ADRENAL; BONE; BONE; CALCIUM; CHROMIUM; COPPER; COPPER; IRON; LEAD; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; SILICON; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; METALS; FACADES; OCCUPATIONAL; METALS; TONGUE; ZINC; ZINC; ZINC	Teraoka, N. 1981 Archives of Environmental Health 36(4):155-165

(SEE PAGE)

Zinc
7440-66-6
Zn

REV 65.38, RP 419.5 C, BP 500 C, VP 1 mg Hg at 487 C, 10 mg Hg at 590 C

(CONTINUED)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	DEATH	GENERAL INFORMATION	REFERENCE
6875 Blood, cells			3	a) 5.7-10.1 ug/ml b) 6.4-8.7 ug/ml	a) Not given b) Not given	a) Pretreatment b) After Zn therapy Range of means 2.6-12 yr old children with acrodermatitis enteropathica Therapy decreased irritability, nervousness, and restlessness. Excretion maintained by 1-2 mg/kg/day. CHILDREN; DISEASES; NUTRITIONAL DEFICIENCIES; BLOOD; HAIR; INTERESTS; SEX; URINE; METALS; IIRC	Valtraves, P.A. Rebidge, R.H. Reidner, R.H. Silverman, A. van Dorslaer, W.J. Pierau, G. 1976 Journal of Pediatrics 93(1):71-73
6876 Blood, plasma		AAS	6	a) 93-97% b) 105-103% c) 92-79% d) 92-96%	a) Not given b) Not given c) Not given d) Not given	a) Fasting b) Ethanol (35 g) c) Food d) Food and ethanol Percent of 9 AM base value of 0.99 500-1.02 ug/ml at 11 AM and 3 PM. Significant decrease in c) and d) Estimated from graph. Healthy 21-36 yr olds BLOOD PLASMA; COMPARATIVE EVALUATIONS; ALCOHOLS; METALS; IIRC; FOODS	Richards, P. Pillay, S. Wahlquist, R.L. 1981 Nutrition Reports International 22(5):938-943
6877 Blood, plasma	Ingestion	AAS	a) 12 b) 19	a) 82-400-4.3 ug/dl b) 77.0-400-3.0 ug/dl S.E.	a) Fasting men (21 samples) b) Fasting women (21 samples) No significant difference between a) and b) Levels increased by 65 ug/dl at 2 hr after 25 mg dose (as 110 mg ZnSO ₄). Increase significantly reduced by administration of ascorbic acid (25-75 mg ferrous sulfate), but not by heme iron (75 mg heme chloride). Heme iron (100 mg) did not have significant effect. Men (24 mg) given as 60 g raw Atlantic oyster Healthy adults ADULTS; NUTRITIONAL DEFICIENCIES; BLOOD PLASMA; COMPARATIVE EVALUATIONS; IRON; METALS; ZINC; DIETS	Solomon, W.B. Jacob, R.A. 1981 American Journal of Clinical Nutrition 30:475-482	
6878 Blood, plasma		AAS	2	a) Not applicable b) Not applicable c) Not applicable	a) 67 ug/100 ml b) 96 ug/100 ml c) 94 ug/100 ml	a) Beginning of study, 2 subjects b) Subject 2, end of study c) Subject 2, end of study Study period, 20 days with 50% caloric intake from white bread followed by 20 days in which high fiber moderate phosphate, local bread replaced white bread 35 and 40 yr olds, wt 56.0 & 60.3 kg. Iran IRAN; ADULTS; NUTRITIONAL DEFICIENCIES; BLOOD PLASMA; BLOOD SEDIMENT; URINE; CALCIUM; IRON; PHOSPHORUS; ZINC; DIETS; FIBERS; FOODS; METALS	Reinhold, J.G. Paradijs, B. Abadi, P. Issali-Beigi, F. 1976 Journal of Nutrition 106:493-503

(SEE PAGE)

(SEVEN PAGES)

Zinc
7800-66-6
Zn

At 65.38, BP 819.5 C, BP 900 C, VP 1 mm Hg at 487 C, 10 mm Hg at 550 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6802 Blood, plasma		AAS	a) 28 b) 21 c) 8	a) Not given b) Not given c) Not given	a) 12.0 $\pm$ 0.8 ug/L b) 12.1 $\pm$ 0.8 ug/L c) 12.6 $\pm$ 0.4 ug/L	a) No Li therapy b) Li therapy for 6 mo c) Li therapy for 1-2 yr No significant differences Manic-depressive patients DEMENTIA; BEHAVIOR DISORDERS; CENTRAL NERVOUS SYSTEM DISEASES; BLOOD PLASMA; DRUG THERAPY; METALS; ZINC	Schou, M. 1981, p. 181. Acta Pharmacologica et Toxicologica 69:299-300
6803 Blood, serum		AAS	89	a) 0.65-1.23 ug/ml b) 0.45-1.3 ug/ml c) 0.45-0.8 ug/ml d) 0.25-1.46 ug/ml e) 0.65-1.45 ug/ml	a) 0.92 $\pm$ 0.12 ug/ml b) 0.68 $\pm$ 0.13 ug/ml c) 0.62 $\pm$ 0.68 ug/ml d) 0.56 $\pm$ 0.23 ug/ml e) 1.13 $\pm$ 0.23 ug/ml	a) 28 Controls b) 20-22 wk gestation, 69 subjects c) 36-37 wk gestation, 50 subjects d) Postpartum, 29 subjects e) Cord blood, 7 subjects Fetus estimated from graph Fetal zinc: maternal, alcohol, parity, oral contraceptives considered Healthy 19-24 yr old Caucasians taking Fe and folic acid, no other B vitamins. Controls, 18-23 yr old, nonpregnant students, no vitamin supplements no oral contraceptives, Ireland INFANT; ADULTS; BLOOD SERUM; BIRTH; ORAL CONTRACEPTIVES; ZINC; ALCOHOL; BEVERAGES; PREGNANCY; SMOKING; METALS	Wir, S.C. Love, A.H.J. Thompson, W. 1981 American Journal of Clinical Nutrition 34:2800-2807
6804 Blood, serum		AAS	a) 26 b) 21 c) 52 d) 11 e) 10 f) 21 g) 10 h) 10 i) 10	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 1.2 $\pm$ 0.6 ppa b) 0.9 $\pm$ 0.8 ppa c) 1.1 $\pm$ 0.5 ppa d) 1.0 $\pm$ 0.4 ppa e) 1.1 $\pm$ 0.3 ppa f) 0.9 $\pm$ 0.4 ppa g) 0.9 $\pm$ 0.1 ppa h) 1.1 $\pm$ 0.2 ppa i) 1.1 $\pm$ 0.2 ppa	a) Lung and respiratory tract b) Gastrointestinal tract c) Breast d) Cervix e) Lymphatic leukemia f) Malignant melanoma g) Hodgkin's lymphoma h) Healthy volunteers i) Geriatric patients a)-j) type of cancer No significant difference between controls and cancer patients Cancer patients (15-81 yr old), geriatric patients (65-81 yr old), healthy volunteers (20-34 yr old), OR UNITED KINGDOM: CAECINOMAS; LEUKEMIA; MELANOMAS; MYELOPLASIA; SARCOMAS; BLOOD SERUM; CANCER; CERVIX; COPPER; MAGNESIUM; MALIGNANCY; METALS; ZINC; BIOINDICATORS	Cepel, I.D. Planoch, R.H. Williams, D.C. Hess, I.W.F. 1982 Oncology 39:38-41
6805 Blood, whole		Fluor Spectrometry	27	Not given	6.3 ppa	Precision 7%. Accuracy within 10% by comparison to atomic absorption spectrometry. BLOOD; MEASUREMENT METHODS; COPPER; IRON; METALS; RUBIDIUM; STRONTIUM; ZINC	Bearse, R.C. Close, D.A. Malanly, J.J. Haberger, C.J. 1974 Analytical Chemistry 46(4):499-503
6806 Body	Ingestion	Radioactivity	12	19-99%	Not given	Y of dose absorbed 24 hr after 1-2 uCi Zn-65 Estimated from graph Significant correlation with urinary excretion ($p < 0.001$) Patients with hypoparathyroidism and hypomagnesemia DISEASES; BODY; URINE; MEASUREMENT METHODS; ZINC; RADIOISOTOPES; METALS	Neckla, R.I. Kasot, B.I. 1975 Lancet 1(7921):1379-1380

(NEXT PAGE)

7440-66-6
Zinc

20

MP 65.30, BP 419.5 C, DP 908 C, VP 1.00 Hg at 607 C, 10 mm Hg at 590 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	SUMMARY INFORMATION	REFERENCE
6897 Body	Ingestion	Radiometry	75	40-66% of dose	65 %or- 11% of dose	Intestinal absorption of 10 uci dose (7h-6d) after 1a hr fast Healthy 18-84 yr olds PCNT; METALS; ZINC	Aaslett, B.L. Zander, M.F. Johansson, T. Wickberg, E.S. Harkley, R.J. Henkle, P.I. 1981 American Journal of Clinical Nutrition 38:2688-2692
6898 Body	Ingestion	Radiometry	75	40-55% of dose	65 %or- 11% of dose	Intestinal absorption of 10 uci dose Zn-65 after 1a hr fast Healthy 18-84 yr olds PCNT; METALS; ZINC	Aaslett, B.L. Zander, M.F. Johansson, T. Harkley, R.J. Henkle, P.I. 1981 American Journal of Clinical Nutrition 38:2688-2692
6899 Bone	IS		5	Not given	200 %or- 56 ppm dry wt	Normal tissue Autopsies Japan Japan: ADULTS: AUTOPSES; ADRENAL GLANDS; BLADDER; BONES; HEART; LIVER; PANCREAS; SPLEEN; THYROID; UTERUS; LYMPH NODES; PARACENT; TESTES; STOMACH; THYROID GLANDS; TRACHEA; ALBUMIN; BASILIN; CALCIUM; CATIONIC CERAMIN; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; STRONTIUM; SILICON; SODIUM; TUNGSTEN; ZINC; ZINC; IRON; TIN; TITANIUM; VANADIUM; ZINC; IRON; OCCUPATIONAL HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOBACCO; ZINC; COPPER; ELEMENTS	Tateoka, K. 1981 Archives of Environmental Health 36(4):155-165
6890 Bone	RA		a) 7 b) 5	a) 71-137 ppm b) 82-102 ppm	a) 104 ppm b) 95 ppm Indians	a) Exposed group b) Controls Autopsies, fear Controls from unpolluted areas 45-75 yr old factory workers, Sweden. Controls from unpolluted areas AUTISM; ARSENIC; CADMIUM; COPPER; LEAD; MERCURY; STRONTIUM; SILVER; TIN; ZINC; BIOACCUMULATION; INDUSTRIAL ATMOSPHERES; INDUSTRIAL PLANTS; POPULATION EXPOSURE; SHELTERS; NOISE; COMPARATIVE EVALUATIONS; NOISE; AUTOPSES; OCCUPATIONAL HAZARDS; METALS	Lindh, G. Groner, D. Wickberg, E. Wester, P.-O. 1980 Science of the Total Environment 16:109-116
6891 Hair	HA		50	143-191 ug/g	172 ug/g	Range of means, 5 localities Residents of Iceland ADULTS; HAIR; ARSENIC; CADMIUM; MERCURY; METALS; STRONTIUM; ZINC	Johannesson, T. Zander, M. Wickberg, E. 1981 Acta Pharmacologica et Toxicologica 48:185-189

(NET PAGE)

111111
7400-66-6
111111
111111

111111 65.30, BP 919.5 C, BP 910 C, VP 1 mm Hg at 407 C, 10 mm Hg at 509 C

(CONTINUED)

TISSUE	EXPOSURE MODE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6892 Hair			3	a) 66-89 ug/g b) 75-120 ug/g	a) Not given b) Not given	a) Pretreatment b) After 10 therapy Range of mean 2.6-12 yr old children with acrodermatitis epidermatolica Therapy decreased irritability, acromegaly and malnutrition. Reactions maintained by 1-2 mg/kg/day. CHILDREN: DISEASES: NUTRITIONAL DEFICIENCIES: BLOOD: HAIR: INTESTINES: SKIN: URINE: METALS: ZINC	Malvern, P.A. Maddox, E.M. Seldner, R. Silverman, R. Van Dornick, W.J. Wasson, G. Wasson, B. Journal of Pediatrics 93(1):71-73
6893 Hair		ARS	60	a) 127-225 ug/g b) 127-225 ug/g c) 88-222 ug/g d) 88-208 ug/g	a) 170.2 $\pm$ 25.1 b) 173 $\pm$ 26 ug/g c) 170 $\pm$ 26 ug/g d) 165 $\pm$ 29 ug/g	a) 28 controls b) 20-27 yr old, 40 subjects c) 16-17 yr old, 30 subjects d) Postpartum, 29 subjects Range estimated from graph Effect of smoking, alcohol, parity, oral contraceptives considered Healthy 19-26 yr old Caucasians taking Fe and folic acid, no other B vitamins. Controls, 18-23 yr old, nonpregnant students, no vitamin supplements no oral contraceptives. Ireland Ireland: ADULTS: BLOOD SERUM: HAIR: ORAL CONTRACEPTIVES: ZINC: ALCOHOLIC BEVERAGES: PREGNANCY: SMOKING: METALS	Alt, S.C. Alt, S.C. Thompson, R. 1961 American Journal of Clinical Nutrition 30:2800-2807
6894 Hair		HA	56	71.1E10 (E-6) -1521E10 (E-6) g/cm cm	319.7E10 (E-6) g/cm cm	3 cm segments of single hairs Some samples below detection limits Ireland: HAIR: FORENSIC MEDICINE: RESEARCH: METALS: ARSENIC: ARSENIC: MORGUE: COPPER: GOLD: LITHIUM: MERCURY: MERCURY: METALS: SODIUM: SILVER: SODIUM: STIMULATION: ZINC: INDUSTRIAL ATMOSPHERES	Myers, H. Myers, H. Journal of Forensic Medicine 31:267-289

(SEE PAGE)

mp 65.39, NP 419.5 C, BP 908 C, VP 1 mm Hg at 487 C, 10 mm Hg at 590 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6895 Hair		AAS	110	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given l) Not given m) Not given n) Not given o) Not given p) Not given q) Not given r) Not given s) Not given	a) 90.3 $\pm$ 0.3 b) 82.1 $\pm$ 0.2 c) 90.1 $\pm$ 0.2 d) 92.2 $\pm$ 0.1 e) 85.8 $\pm$ 0.2 f) 73.1 $\pm$ 0.2 g) 89.6 $\pm$ 0.2 h) 88.6 $\pm$ 0.2 i) 94.5 $\pm$ 0.1 j) 85.7 $\pm$ 0.2 k) 88.4 $\pm$ 0.2 l) 90.8 $\pm$ 0.2 m) 93.6 $\pm$ 0.2 n) 91.1 $\pm$ 0.2 o) 116.3 $\pm$ 0.3 p) 91.6 $\pm$ 0.2 q) 88.2 $\pm$ 0.2 r) S.E.	a) All children b) Height, 45-49y, 5 children c) Height, 50-54y, 16 children d) Height, 55-59y, 16 children e) Height, 100-104y, 20 children f) Height, 2 or = 105y, 2 children g) Height, 95-99y, 4 children h) Height, 90-94y, 15 children i) Weight, 100-104y, 2 children j) Weight > or = 105y, 16 children k) Age circumference, 85-89y, 5 children l) Age circumference, 85-89y, 26 children m) Age circumference, 90-94y, 23 children n) Age circumference 95-99y, 22 children o) Age circumference > or = 100y, 16 children p) Taste acuity normal, 55 children q) Mild hypoguesia, 17 children r) Moderate and severe hypoguesia, 4 children s) Height, weight, and age circumference, as % of median levels, significantly correlated with Zn levels. Moderate to severe hypoguesia significantly associated with low Zn levels	Basins, P. Basins, S. Milanovic, S. 1980 American Journal of Clinical Nutrition 33(1):2262-2267
6896 Hair	NA		65	150-185 ug/g	Not given	Range of mean, estimated from graph Awan, El Kharga, Assuit, Cairo, and Alexandria, Egypt EGYPT: HAIR: HAIR; METALS: ARSENIC; CADMIUM; CHROMIUM; COBALT; COPPER; MANGANESE; METALS: MOLYBDENUM; SCANDIUM; SILVER; TUNGSTEN; ZINC; DRINKING WATER; POPULATION EXPOSURE; SOILS; URBAN AREAS Range of mean, estimated from graph Awan, El Kharga, Assuit, Cairo, and Alexandria, Egypt EGYPT: HAIR: HAIR; METALS: ARSENIC; CADMIUM; CHROMIUM; COBALT; COPPER; MANGANESE; METALS: MOLYBDENUM; SCANDIUM; SILVER; TUNGSTEN; ZINC; DRINKING WATER; POPULATION EXPOSURE; SOILS; URBAN AREAS	Kapetch, F. Lyngat, G.V. Palaender, L.E. Nashish, S. Nashish, R. 1982 Science of the Total Environment 22:149-166
6897 Hair	NA			a) 51-340 ppm b) 77-177 ppm c) 91-241 ppm d) 71-171 ppm	a) 138 $\pm$ 45 ppm b) 137 $\pm$ 25 ppm c) 166 $\pm$ 43.6 ppm d) 126 $\pm$ 26 ppm	a) 12 CD length, 106 samples b) Foot length, 16 samples c) Distal section, 10 samples d) Students in 4, 12 samples Metropolitan Bombay, India INDIA: ADOLESCENTS; ADULTS; HAIR; ARSENIC; CHROMIUM; COBALT; COPPER; MANGANESE; METALS: MOLYBDENUM; SCANDIUM; SILVER; TUNGSTEN; ZINC; DRINKING WATER; POPULATION EXPOSURE; SOILS; URBAN AREAS INDIA: ADOLESCENTS; ADULTS; HAIR; ARSENIC; CHROMIUM; COBALT; COPPER; MANGANESE; METALS: MOLYBDENUM; SCANDIUM; SILVER; TUNGSTEN; ZINC; DRINKING WATER; POPULATION EXPOSURE; SOILS; URBAN AREAS	Whit, R. Arachalas, J. Tanasubramanian, S. Jangadharan, S. Science of the Total Environment 22:169-178

TEXT PAGE

lit. 65.30, mp 119.5 C, bp 908 C, vp 1 mm Hg at 487 C, 10 mm Hg at 590 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUMMARY OF CASES	BASIS	MEAN	GENERAL INFORMATION	REFERENCE
6898 Hair		AAS	3	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 568 ug/g b) 406 ug/g c) 118 ug/g d) 130 ug/g e) 94.5 ug/g f) 94.3 ug/g	a) Subject 1, unwashed hair b) Subject 1, after 12 successive acetone washes c) Subject 2, unwashed hair d) Subject 2, after 12 successive acetone washes e) Subject 3, unwashed hair f) Subject 3, after 12 successive washes in soiled laundry sulfate solution g) 10 determinations, each subject. h) Data also from other procedures and washing agents.	Salesta, S. Wahlberg, Elipio, J.O. 1981 Analytica Chimica Acta 125: 131-137
6899 Heart		MS	a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) 65-190 ppm c) 95-230 ppm d) Not applicable e) Not applicable Dry wt	a) 82 wet- 18 ppm b) 127 ppm c) 162 ppm d) 49 ppm e) 150 ppm Dry wt	a) Normal healthy men b) Chromate refinery workers c) Chromate refinery workers d) Airplane painter e) Stone mason Autopsies	Tetsuka, H. 1981 Archives of Environmental Health 36(4): 155-165
4950 Intestine		MS	10	Not given	71 wet- 17 ppm dry wt	JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; BONES; HEART; LIVER; SPLEEN; THYROID GLANDS; UTERUS; LYMPH NODES; PANCREAS; STOMACH; TESTICULAR GLANDS; TONGUE; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICOLOGY; ELEMENTS	Tetsuka, H. 1981 Archives of Environmental Health 36(4): 155-165

1

[illegible]

MP 65-70, BP 119.5°C, VP 1 mm Hg at 407°C, 10 mm Hg at 590°C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6901 Intestine			3	a) Not applicable b) Not applicable c) Not applicable	a) 77 ug/g b) 271 ug/g c) 57 ug/g Dry weight	a) Pretreatment b) After 2 mo Zn therapy c) 2 controls Peroral jejunal biopsies 12 yr old girl. 6-7 yr old controls. Therapy decreased irritability, nervousness, and restlessness. Resection maintained by 1-2 ug/kg/day. CHILDREN; DISPASES; NUTRITIONAL DEFICIENCIES; BLOOD; HAIR; TESTES; SKIN; URINE; METALS; ZINC	Wairavasa, P.A. Nabholz, G.N. Weldner, K.R. Silverman, A. van Doornick, H.J. Wiersa, G. Wiersa, R. Journal of Pediatrics 93(1):11-23
6902 Kidney	MS		a) 0 b) 2 c) 3 d) 1 e) 1	a) Not given b) 150-450 ppa c) 180-310 ppa d) Not applicable e) Not applicable Dry wt	a) 150 $\pm$ 72 ppa b) 295 ppa c) 250 ppa d) 86 ppa e) 280 ppa Dry wt	a) Normal healthy men b) Chronic plant workers c) Chronic refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPANESE; ADULTS; AUTOPSES; ADRENAL GLANDS; KIDNEY; BONES; HAIR; LIVER; TESTES; KIDNEYS; LUNG; LUNG; LUNG; PANCREAS; SPLEEN; STOMACH; TESTES; UTERUS; VAGINA; ALUMINUM; BARIUM; CADMIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICOLOGY; ELEMENTS	Tetsuka, H. 1991 Archives of Environmental Health 36(4):155-165
6903 Kidney	MS		123	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 6.5 $\pm$ 0.7 μ g/l b) 5.8 $\pm$ 0.9 μ g/l c) 5.3 $\pm$ 0.6 μ g/l d) 7.7 $\pm$ 0.7 μ g/l e) 7.6 $\pm$ 0.6 μ g/l f) 5.2 $\pm$ 0.4 μ g/l g) 6.0 $\pm$ 0.5 μ g/l h) 5.1 $\pm$ 0.7 μ g/l i) 6.0 $\pm$ 0.5 μ g/l	a) All cases b) Hypertension, 35 cases c) Atherosclerosis, 81 cases d) Cancer, 32 cases e) Cancer and metastases, 16 cases f) Leukemia, 7 cases g) Brain tumor, 8 cases h) Renal disease, 8 cases i) Other, 28 cases Autopsies Positive significant correlation between Zn and Cd in all cases. Sedling and non-sedling patients CADMIUM; METALS; STRONTIUM; ZINC; CADMIUM; CARCINOMA; HYPERTENSION; KIDNEY DISEASES; LEUKEMIA; KIDNEYS; TOXICOLOGY	Shamberger, P.J. Bratton, C.R. 1990 Proceedings, University of Colorado Annual Conference on Trace Substances in the Environment 18:203-210

(NEXT PAGE)

Tinc
 7440-66-6
 In
 65.38.

mp 65.30, bp 19.5 C, 3P 900 C, VP 1 mm Hg at 407 C, 10 mm Hg at 590 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6907 Lymph node		ES	a) 3 b) 1 c) 3 d) 1 e) 1	a) Not given b) Not applicable c) 74-380 ppa d) Not applicable e) Not applicable Dry wt	d) 110 + or - 34 ppa b) 110 ppa c) 228 ppa d) 150 ppa e) 600 ppa Dry wt	a) Normal healthy men b) Korea plating worker c) Chinese factory workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; PANCREAS; SPLEEN; THYROID GLANDS; UTERUS; LYMPH NODES; PARACENT; SPLEEN; STOMACH; THYROID GLANDS; PANCREAS; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BONE CALCIFICATION; HAZARDS; OCCUPATIONAL HAZARDS; TCMSOZ; XIRCONIUM; ELEMENTS	Terada, R. 1981 Archives of Environmental Health 36(4):155-165
6908 Saliv		BA	66	130-250 ug/g	Not given		Papeteck, F. Iyengar, G. V. Feldendegen, E.Z. Machish, S. Belour, M.
6909 Pancreas		ES	5	Not given	140 + or - 30 ppa dry wt		Tanaka, H. 1981 Archives of Environmental Health 36(4):155-165
6910 Saliva	Ingestion	AAS	7	a) 172-311 ug/ml b) 171-338 ug/ml c) 302 + or - 136 ug/ml d) 178-537 ug/ml	a) 266 + or - 89 ug/a b) 280 + or - 111 ug/a c) After 2 wk on low Zn diet d) After 3 wk on low Zn diet Range of mean for individual patients 23-yr old University of Texas students in good health with adequate Zn	JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; UTERUS; LYMPH NODES; PARACENT; SPLEEN; STOMACH; THYROID GLANDS; PANCREAS; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BONE CALCIFICATION; HAZARDS; OCCUPATIONAL HAZARDS; TCMSOZ; XIRCONIUM; ELEMENTS	Ferland-Graves, J.H. Mendrickson, P.J. Bangdi, M.L. Snowles, J.T. 1981 American Journal of Industrial Hygiene 34:312-321

NEXT PAGE

Zinc
7840-66-6
28
MW 65.38, MP 119.5 C, BP 908 C, VP 1 mm Hg at 487 C, VD mm Hg at 590 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6911 Salivary secretion	Ingestion	AS	5	a) 101-162 ug/g b) 79-116 ug/g	a) Not given b) Not given	a) Baseline levels Zn b) After low Zn diet for 22 days Estimated from graph 22-24 yr old University of Texas students in good health with adequate Zn NUTRITIONAL DEFICIENCIES: THIAS; ADULTS; SEX: BLOOD PLASMA; SALIVA; ZINC: BIOINDICATORS; DIETS	Freeland-Graves, J.H. Henrickson, P.J. Zhang, M.L. Snider, J.Y. 1981 American Journal of Clinical Nutrition 34:312-121
6912 Skin			5	a) Not given b) Not given c) Not given d) Not given	a) 6-7 ug/g b) 10.4 ug/g c) 26.3 ug/g d) 22.43 ug/g Dry weight	a) Pretreatment, 1 subject b) After 2 mo in therapy, subject a) c) After 15 mo in therapy, subject a) d) 4 controls Subject a) 31 mo old boy Therapy decreased irritability, nervousness, and restlessness. Reactions maintained by 1-2 mg/kg/day. CHILDREN: DISEASES: NUTRITIONAL DEFICIENCIES: GOOD: HAIR; INTESTINES; SKIN; URINE; RETALS; ZINC	Valtravens, P.A. Mashige, K.N. Feldner, E.H. Silverman, A. van Doornick, W.J. Klein, G. Klein, S. 1978 Journal of Pediatrics 93(1):71-73
6913 Spleen		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) Not given c) 150-150 ppm d) Not applicable e) Not applicable Dry wt	a) 84 ± 30 ppm b) 256 ppm c) 325 ppm d) 10 ppm e) 320 ppm Dry wt	a) Normal healthy men b) Chronic plating workers c) Chronic refining workers d) Airplane palates e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; RETALS; SILICON; SODIUM; POTASSIUM; SILICON; PHOSPHORUS; STOMACH; TIN; TITANIUM; SODIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS: OCCUPATIONAL HAZARDS; TOXIC: ZINC; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6914 Stomach		ES	10	Not given	71 ± 17 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MANGANESE; RETALS; SILICON; SODIUM; POTASSIUM; SILICON; PHOSPHORUS; STOMACH; TIN; TITANIUM; SODIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS: OCCUPATIONAL HAZARDS; TOXIC: ZINC; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(SEE PAGE)

210C
7000-66-6

20

 η_{inh} 0.530, M_p 19.5 C, M_p 900 C, VP 1 mm Hg at 0.07 C, 10 mm Hg at 59.0 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	BURDEN OF CASES	DOSAGE	REMARKS	GENERAL INFORMATION	REFERENCE
6915 Thyroid gland		ES	a	Not given	80 ± 13 ppm dry wt	Normal tissue Autopsies Japan JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; UTERUS; OVARY; CERVIX; COLORECTUM; BLADDER; PROSTATE; TESTIS; SEMINAL VESICLE; EPIDIDYMUS; BOLIVENDIUM; MICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; PAINT; HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINCONIUM; ELEMENTS	Teraoka, N. 1991 Archives of Environmental Health 36(4):155-165
6916 Tongue		ES	2	Not given	65 ± 7.8 ppm dry wt	Normal tissue Autopsies Japan JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; UTERUS; OVARY; CERVIX; COLORECTUM; BLADDER; PROSTATE; TESTIS; SEMINAL VESICLE; EPIDIDYMUS; BOLIVENDIUM; MICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; PAINT; HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINCONIUM; ELEMENTS	Teraoka, N. 1991 Archives of Environmental Health 36(4):155-165
6917 Trachea		ES	2	Not given	32 ± 11 ppm dry wt	Normal tissue Autopsies Japan JAPAN; ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; UTERUS; OVARY; CERVIX; COLORECTUM; BLADDER; PROSTATE; TESTIS; SEMINAL VESICLE; EPIDIDYMUS; BOLIVENDIUM; MICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; PAINT; HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; ZINCONIUM; ELEMENTS	Teraoka, N. 1991 Archives of Environmental Health 36(4):155-165
6918 Urine	Ingestion	Radioactivity	12	-0.1-15 uCi	Not given	24 hr excretion after 1-2 uCi 24-hr Estimated from graph Significant correlation with absorption Patients with hypokalemia and hypotonia DISEASES; BODY WEIGHT MEASUREMENT METHODS; TIME; RADIOACTIVITY; METALS	Hendrie, F.I. Kuroki, R.I. 1975 Lancet 1(7921):1379-1380

REF ID: A66111

Trace
7440-66-6

2a
MW 65.36, BP 119.5 C, BP 908 C, VP 1 mg Hg at 487 C, 10 mg Hg at 590 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6919 Urine			3	a) 37-58 ug/24 hr b) 286-1168 ug/24 hr	a) Not given b) Not given	a) Pretreatment b) After Zn therapy Range of means 2.6-12 yr old children with acrodactylitis osteopathica Therapy decreased irritability, nervousness, and restlessness. Retention maintained by 1-2 mg/day. CHILDREN: DISEASES: NUTRITIONAL DEFICIENCIES: BLOOD: HAIR: INTESTINES: SKIN: URINE: METALS: ZINC	Walravens, P.A. Habbidge, K.H. Weldner, K.H. Silverman, A. van Doornick, W.J. Mierau, G. Pavara, B. 1978 Journal of Pediatrics 93(1):71-73
6920 Urine	Ingestion	AAS	2	a) Not given b) Not given c) Not given d) Not given	a) 0.7 mg/24 hr b) 0.7 mg/24 hr c) 0.7 mg/24 hr d) 0.8 mg/24 hr	a) Subject 1, intake 18.1 mg/24 hr, low fiber diet b) Subject 1, intake 19.0 mg/24 hr, high fiber diet c) Subject 1, intake 19.0 mg/24 hr, low fiber diet d) Subject 2, intake 19.4 mg/24 hr, high fiber diet Total dietary intake Means of 10 2-day periods 50% caloric intake from white bread in a) and c) and from high fiber, moderate phytate local bread in b) and d) Both subjects in negative balance on high fiber diet 35 and 24 yr old, wt 56.0 & 60.3 kg, Iran IRAN: ADULTS: NUTRITIONAL DEFICIENCIES: BLOOD PLASMA: BLOOD SERUM: URINE: CALCIUM: MAGNESIUM: PHOSPHORUS: ZINC: DIETS: FIBERS: FOODS: METALS	Rehbold, J.J. Farajli, B. Abadi, P. 1978 Journal of Nutrition 106:493-503

Trace 70 (No postings in CERILIB).

2a
MW 65.36, BP 119.5 C, BP 908 C, VP 1 mg Hg at 487 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6921 Blood, Plasma	Ingestion	MA	4	Not given	0.38	Peak radioactivity, % of 3.2 mg dose Healthy 24-37 yr olds, wt. 54-67 kg ADULTS: BLOOD PLASMA: MEASUREMENT METHODS: METALS: ZINC	Jasnorbski, R. Ting, B.T.G. Istaitieh, R.H. Yousaf, V.R. 1981 American Journal of Clinical Nutrition 34:581-591

Zirconium
 7400-67-7
 2x
 atw 91.22, mp 1852 C, bp 3577 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6925 Adrenal gland		ES	7	Not given	<0.4 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; ADULTS: AGERS: HEART; TESTICLES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; UTERUS; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION: HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZIPCONIUM; ELEMENTS	Torabata, H. 1981 Archives of Environmental Health 36(4):155-165

(CONT. PAGE)

Xircoilus
7440-67-7
EC
ATW 91.22, HP 1852 C, HP 3577 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6926 Aorta		ES	7	Not given	<0.4 ppm dry wt	Mortal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; XIRCONIUM; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6927 Bone		ES	5	Not given	<0.4 ppm dry wt	Mortal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; XIRCONIUM; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165
6928 Heart		ES	a) 8 b) 2 c) 3 d) 1 44 1	a) Not given b) <0.4-0.8 ppm c) <0.4 ppm-0.8 ppm d) Not applicable e) Not applicable dry wt	a) <0.4 ppm b) <0.4 ppm c) <0.4 ppm d) <0.4 ppm dry wt	a) Mortal healthy men b) Chromium plating workers c) Chromate refinishing workers d) Airplane painter e) Shipyard worker Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TONGUE; XIRCONIUM; ELEMENTS	Teraoka, H. 1981 Archives of Environmental Health 36(4):155-165

(SEE PAGE)

Yickoian
7460-67-7
22

AtW 91.22, NP 1852 C, NP 3577 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	SEAM	GENERAL INFORMATION	REFERENCE
6930 Intestine		ES	10	Not given	<0.4 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; POLYDROM; SILICON; SODIUM; POTASSIUM; SILICON; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ZINC; ZINC	Tetsuka, H. 1981 Archives of Environmental Health 36(4):155-165
6930 Kidney		ES	a) 8 b) 2 c) 3 d) 1 e) 1	a) Not given b) <0.4-0.8 ppm c) <0.4-0.8 ppm d) Not applicable e) Not applicable Dry wt	a) <0.4 ppm b) <0.4 ppm c) <0.4 ppm d) <0.4 ppm e) <0.4 ppm Dry wt	a) Normal healthy men b) Chronic plating workers c) Chronic refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; POLYDROM; SILICON; SODIUM; POTASSIUM; SILICON; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ZINC; ZINC	Tetsuka, H. 1981 Archives of Environmental Health 36(4):155-165
6931 Liver		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) <0.4-0.76 ppm c) <0.4-1.4 ppm d) Not applicable e) Not applicable Dry wt	a) <0.4 ppm b) Not given c) Not given d) 0.46 ppm e) 0.50 ppm Dry wt	a) Normal healthy men b) Chronic plating workers c) Chronic refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; POLYDROM; SILICON; SODIUM; POTASSIUM; SILICON; SODIUM; STRONTIUM; TIN; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZINC; ZINC; ZINC	Tetsuka, H. 1981 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

NEW 91.22, MP 1052 C, BP 3577 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6932 Lung		ES	m 12 f 2 c 3 d 1 e 1	a) Not given b) 1.3-1.6 ppm c) 0.89-8.1 ppm d) Not applicable e) Not applicable Dry wt	a) 0.49 sec- 0.19 ppm b) 1.4 ppm c) 2.1 ppm d) 0.87 ppm e) 5.0 ppm Dry wt	e) Normal healthy men b) Chromate plating workers c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; UTERUS; VAGINA; OVARY; TESTIS; SEMINAL VESICLE; COLORECTUM; CORPORA; PROSTATE; BLADDER; NAGASTU; MARGARET; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOBACCO; ZINCURION; ELEMENTS	Terakata, H. 1981 Archives of Environmental Health 36(4):155-165
6933 Lymph node		ES	m 3 f 1 c 3 d 1 e 1	a) Not given b) Not applicable c) 0.4-3.6 ppm d) Not applicable e) Not applicable Dry wt	a) 11 sec- 3.9 ppm b) 1.7 ppm c) 2.4 ppm d) 6.5 ppm e) 18 ppm Dry wt	a) Normal healthy men b) Chromate plating worker c) Chromate refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALIMENTARY CANAL; CAECUM; CECUM; CEREBRUM; CORALT; COPPER; FIBROBLAST; MACROPHAGE; MARGARET; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOBACCO; ZINCURION; ELEMENTS	Terakata, H. 1981 Archives of Environmental Health 36(4):155-165
6934 Pancreas		ES	5	Not given	<0.4 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES; ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; UTERUS; VAGINA; OVARY; TESTIS; SEMINAL VESICLE; COLORECTUM; CORPORA; PROSTATE; BLADDER; NAGASTU; MARGARET; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SILVER; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOBACCO; ZINCURION; ELEMENTS	Terakata, H. 1981 Archives of Environmental Health 36(4):155-165

----- PAGE -----

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6935 Spleen		ES	a) 9 b) 2 c) 3 d) 1 e) 1	a) Not given b) 0.64-2.0 ppm c) <0.4-0.67 ppm d) Not applicable e) 1.8 ppm Dry wt	a) <0.4 ppm b) 1.32 ppm c) Not given d) 1.3 ppm e) 1.8 ppm Dry wt	a) Normal healthy men b) Chromium plating workers c) Chromium refining workers d) Airplane painter e) Stone mason Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZIPCONIUM; ELEMENTS	Terakata, H. 1991 Archives of Environmental Health 36(4):155-165
6936 Stomach		ES	10	Not given	<0.4 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZIPCONIUM; ELEMENTS	Terakata, H. 1991 Archives of Environmental Health 36(4):155-165
6937 Thyroid gland		ES	4	Not given	<0.4 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS: AUTOPSIES: ADRENAL GLANDS; AORTA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; TRACHEA; ALUMINUM; BARIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; METALS; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICITY; ZIPCONIUM; ELEMENTS	Terakata, H. 1991 Archives of Environmental Health 36(4):155-165

(NEXT PAGE)

91.22, 90 1032 C, 90 1037 C

(continued)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	REMARKS	GENERAL INFORMATION	REFERENCE
6936 Tongue		ES	2	Not given	<0.4 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; ADATA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYMUS; ALIMENTARY CANAL; CALCITONIN; CEREBRUM; CORALLI; COPPER; IRON; LEAD; MANGANESE; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICOLOGY; ZINCURION; ELEMENTS	Tsutsui, H. 1991 Archives of Environmental Health 36(4):155-165
6939 Trachea		ES	2	Not given	<0.4 ppm dry wt	Normal tissue Autopsies Japan JAPAN: ADULTS; AUTOPSIES: ADRENAL GLANDS; ADATA; BONES; HEART; INTESTINES; KIDNEYS; LIVER; LUNGS; LYMPH NODES; PANCREAS; SPLEEN; STOMACH; THYROID GLANDS; THYMUS; ALIMENTARY CANAL; CALCITONIN; CEREBRUM; CORALLI; COPPER; IRON; LEAD; MANGANESE; NICKEL; PHOSPHORUS; POTASSIUM; SILICON; SODIUM; STRONTIUM; TITANIUM; VANADIUM; ZINC; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; TOXICOLOGY; ZINCURION; ELEMENTS	Tsutsui, H. 1991 Archives of Environmental Health 36(4):155-165

1-Research101
11-31-9
C6-1118-5
NW 110.20, NW

CG-010-5
NW 110.20, NP -01 C, BP 151 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6960 Breath		GC/MS	26	0.3-6 mg/l	1.6 mg/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Acidic protocol 14 days before and after exposure to 100 mg/m ³ and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROBENZENE	Kotoszynski, B. Gabriel, G. O'Snell, R. Caudio, R.P.A. Chromatographic Science Journal of 15:239-244

1-Hexanol, 2-ethyl-
104-76-7
C8-H18-O
MW 130.22, BP 164-165 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6981 Breath		GC/MS	28	2.2-8 ng/l	4 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotoszynski, B. Gabriel, G. O'Neill, R. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

1-Octene, 2-ethyl-
4586-18-5
C9-H18
MW 126.27

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6982 Breath		GC/MS	28	0.03-0.29 ng/l	0.095 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotoszynski, B. Gabriel, G. O'Neill, R. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

1-Pentanol, 2-ethyl-4-methyl-
104-67-2
C8-H18-O
MW 130.26

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6983 Breath		GC/MS	28	0.9-9 ng/l	2.8 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotoszynski, B. Gabriel, G. O'Neill, R. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

1-Pentanol, 2-ethyl-
105-10-6
C6-H16-O
MW 102.18, BP 148 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6944 Breath		GC/MS	28	0.5-7.4 ug/l	1.9 ug/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize intake and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROBENZENES	Kotomiyaki, B. Gabriel, G. O'Neill, R. Laudig, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

1-Pentanol, 2,2-diethyl-
2370-12-9
C7-H16-O
MW 116.20

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6945 Breath		GC/MS	28	2-12 ug/l	4.5 ug/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize intake and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROBENZENES	Kotomiyaki, B. Gabriel, G. O'Neill, R. Laudig, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

1-Pentanol, 2,2,4-triethyl-
123-88-4
C8-H18-O
MW 130

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6946 Breath		GC/MS	28	2.5-10 ug/l	5 ug/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize intake and amount of exogenous constituents. ADULTS: BREATH: ALCOHOLS: CHLORINE ORGANIC COMPOUNDS: CHLOROBENZENES	Kotomiyaki, B. Gabriel, G. O'Neill, R. Laudig, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

1-Propanol, 2,2-diethyl-, acetate
926-81-0
C7-H16-O2
MW 130.18

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	REFERENCE
6987 Breath		GC/MS	28	1.2-5 ng/l	2.5 ng/l	Kotomiyaki, B. Chiba, K. O'Neill, M. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

1-Propanol, 2,3-dichloro-, phosphate (3:1)
78-83-3
C9-H15-Cl6-O8-P
MW 430.91

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	REFERENCE
6948 Semen		MS		5-50 ppb	Not given	Hudec, T. Thorn, J. Kuehl, D. Dougherty, R.C. 1981 Science 211:951-952

1,1'-Biphenyl, 2,2',3,3',4,4'-hexachloro-
30380-07-3
C12-H8-Cl6
MW 360.86

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	REFERENCE
6949 Adipose		GC	26	0.05-0.2 ug/g	0.07 ug/g Median	Holff, M.S. Thornton, J. Fischbein, A. Lilla, R. Seligoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6950 Blood, plasma		GC	26	0.7-0.8 ng/ml	0.8 ng/ml Median	Holff, M.S. Thornton, J. Fischbein, A. Lilla, R. Seligoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,2',3,3',4,4',5'-octachloro-
35065-30-6
C12-83-C17
HW 395

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6951 Adipose		GC	26	0.08-1 ug/g	0.2 ug/g Median	Capacitor manufacture workers. 1976 clinical health survey. Relative levels used to calculate adipose-plasma partition	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Seitkoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6952 Blood	Ingestion	GC	a) 10 b) 9 c) 7	a) Not given b) Not given c) Not given	a) 1.18 μ g/g b) 0.28 μ g/g c) 0.11 μ g/g Median	a) Taiwan, PCB poisoning b) Japan, PCB poisoning c) Japan, controls Few months (a) and 5 yr (b) after ingesting contaminated rice oil. TAIWAN, JAPAN: BLOOD: CHLORINATED HYDROCARBONS; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; FOOD CONTAMINATION; POPULATION EXPOSURE; INDUSTRIAL CHEMICALS 11(2):199-206	Asada, Y. Kuroki, H. Yasutyo, T. Haseguchi, K. Kurasune, M. Ishii, S.Y. 1982 Toxicology and Applied Pharmacology 62:294-306
6953 Blood, plasma		GC	26	0.5-3 ug/ml	1 ug/ml Median	Capacitor manufacture workers. 1976 clinical health survey. Relative levels used to calculate adipose-plasma partition ADIPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS; INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Seitkoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,2',3,3',4,4',5,5'-octachloro-
35094-08-7
C12-82-C18
HW 429, 74

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6954 Adipose		GC	26	Not given	0.1 ug/g	Capacitor manufacture workers. 1976 clinical health survey. ADIPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS; INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Seitkoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,2',3,3',4,4',5,5'-octachloro-
42740-50-1
C12-82-C18
HW 429, 74

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6955 Adipose		GC	26	0.05-0.2 ug/g	0.1 ug/g Median	Capacitor manufacture workers. 1976 clinical health survey. Relative levels used to calculate adipose-plasma partition ADIPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS; INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, R. Seitkoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

(NEXT PAGE)

(CONTINUED)

1,1'-Biphenyl, 2,2',3,3',4,4',5,6'-octachloro-
 38411-25-5
 C12-H2-Cl8
 MW 329.78

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	REFERENCE
6956 Blood, plasma		GC	26	0.2-1 ug/ml	0.7 ug/ml Median	Wolff, M.S., Thornton, J., Fischbein, A., Lillis, R., Seligoff, I.J., 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,2',3,3',4,5,6'-octachloro-
 38411-25-5
 C12-H2-Cl8
 MW 329.78

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	REFERENCE
6957 Adipose		GC	26	0.05-0.5 ug/g	0.2 ug/g Median	Wolff, M.S., Thornton, J., Fischbein, A., Lillis, R., Seligoff, I.J., 1982 Toxicology and Applied Pharmacology 62:294-306
6958 Blood, plasma		GC	26	0.2-2 ug/ml	1 ug/ml Median	Wolff, M.S., Thornton, J., Fischbein, A., Lillis, R., Seligoff, I.J., 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,2',3,3',4,5,6'-heptachloro-
 38411-25-5
 C12-H3-Cl7
 MW 315.30

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	REFERENCE
6959 Adipose		GC	26	0.05-0.2 ug/g	0.09 ug/g Median	Wolff, M.S., Thornton, J., Fischbein, A., Lillis, R., Seligoff, I.J., 1982 Toxicology and Applied Pharmacology 62:294-306
6960 Blood, plasma		GC	26	0.2-0.3 ug/ml	0.3 ug/ml Median	Wolff, M.S., Thornton, J., Fischbein, A., Lillis, R., Seligoff, I.J., 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,2',3,3',4,4',5'-hexachloro-
52463-58-9
C12-H2-Cl7
MW 395.30

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6961 Adipose		GC	26	0.05-0.3 ug/g	0.1 ug/g Median	Capacitor manufacture workers. 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition	Wolff, M.S. Thornton, J. Flachsbart, A. Lillis, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6962 Blood, plasma		GC	26	0.2-2 ug/ml	0.4 ug/ml Median	ADPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Flachsbart, A. Lillis, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,2',3,3',4,5',6'-heptachloro-
52463-70-9
C12-H3-Cl7
MW 395.30

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6963 Adipose		GC	26	0.05-0.3 ug/g	0.07 ug/g Median	Capacitor manufacture workers. 1976 Clinical health survey. ADPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Flachsbart, A. Lillis, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6964 Blood, plasma		GC	26	0.2-0.5 ug/ml	0.4 ug/ml Median	Capacitor manufacture workers. 1976 Clinical health survey. ADPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Flachsbart, A. Lillis, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,2',3,4-tetrachloro-
52463-58-9
C12-H6-Cl4
MW 291.98

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6965 Adipose		GC	26	0.04-3 ug/g	0.3 ug/g Median	Analytically indistinguishable from 3,5,3',5'-tetrachlorobiphenyl Capacitor manufacture workers. 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition	Wolff, M.S. Thornton, J. Flachsbart, A. Lillis, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

(NEXT PAGE)

(CONTINUED)

1,1'-Biphenyl, 2,2',3,4,5'-tetrachloro-
5263-59-9
C12-H8-Cl4
MW 291.56

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	REFERENCE
6966 Blood, plasma		GC	26	0.2-62 ug/ml	1 ug/ml Median	Analytically indistinguishable from 3,3',4,4'-tetrachlorobiphenyl Capacitor manufacture workers, 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition ADIPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,2',3,4,4',5'-heptachloro-
35065-28-2
C12-H3-Cl7
MW 395

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6967 Adipose		GC	26	0.05-3 ug/g	0.6 ug/g Median	Capacitor manufacture workers, 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition ADIPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Torikata, J. Pischke, A. Lills, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6968 Blood	Ingestion	GC	a) 10 b) 9 c) 7	a) Not given b) Not given c) Not given	a) 1.73 μ g- 0.63 ppb b) 0.44 μ g- 0.13 ppb c) 0.12 μ g- 0.07 ppb	a) Taiwan, PCB poisoning b) Japan, PCB poisoning c) Japan, controls Few months (a) and 5 yr (b) after ingesting contaminated rice oil. TAIWAN: JAPAN: BLOOD: CHLORINATED HYDROCARBONS; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION: FOOD CONTAMINATION: POPULATION EXPOSURE; INDUSTRIAL CHEMICALS	Masuda, Y. Wakaki, M. Yamato, T. Haraguchi, K. Kuratsune, M. Hsu, S.-T. Chemosphere 11(2):199-206 1981
6969 Blood, plasma		GC	26	0.6-8 ug/ml	3 ug/ml Median	Capacitor manufacture workers, 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition ADIPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Torikata, J. Pischke, A. Lills, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,2',3,4,4',5'-hexachloro-
35065-28-2
C12-H6-Cl6
MW 361

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	REFERENCE
6970 Adipose		GC	26	0.06-4 ug/g	1 ug/g Median	Capacitor manufacture workers, 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition ADIPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES Toxicology and Applied Pharmacology 62:294-306

(NEXT PAGE)

1,1'-Biphenyl, 2,2',3,4,4',5'-hexachloro-
35965-28-2
C12-H8-Cl6
MW 361

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6971 Blood	Ingestion	GC	a) 10 b) 9 c) 7	a) Not given b) Not given c) Not given	a) 4.66 μ g- 1.43 ppb b) 0.45 μ g- 0.21 ppb c) 0.17 μ g- 0.07 ppb	a) Taiwan, PCB poisoning b) Japan, PCB poisoning c) Japan, controls few months (a) and 5 yr (b) after ingesting contaminated rice oil. TAIWAN: JAPAN: BLOOD: CHLORINATED HYDROCARBONS: POLYCHLORINATED BIPHENYLS: BIOACCUMULATION: FOOD CONTAMINATION: POPULATION EXPOSURE; INDUSTRIAL CHEMICALS	Nasada, Y. Kuroki, H. Kawapoti, T. Kawapoti, E. Kawapoti, E. Hsu, S.Y. 1981 Chemosphere 11(2):195-208
6972 Blood, plasma		GC	26	0.5-17 μ g/ml	4 μ g/ml Median	Capacitor manufacture workers. 1976 clinical health survey. Relative levels used to calculate adipose-plasma partition	Wolff, M.S. Thornton, J. Fischbein, A. Lille, E. Seligman, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,2',3,4,4',5',6-heptachloro-
2563-69-1
C12-H5-Cl7
MW 395.30

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6973 Adipose		GC	26	0.06-0.2 μ g/g	0.1 μ g/g	Capacitor manufacture workers. 1976 clinical health survey. Relative levels used to calculate adipose-plasma partition	Wolff, M.S. Thornton, J. Fischbein, A. Lille, E. Seligman, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6974 Blood, plasma		GC	26	0.2-0.8 μ g/ml	0.3 μ g/ml Median	Capacitor manufacture workers. 1976 clinical health survey. Relative levels used to calculate adipose-plasma partition	Wolff, M.S. Thornton, J. Fischbein, A. Lille, E. Seligman, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,2',3,4,5'-pentachloro-
38380-02-8
C12-H5-Cl5
MW 326.92

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6975 Adipose		GC	26	0.08-0.5 μ g/g	0.2 μ g/g Median	Capacitor manufacture workers. 1976 clinical health survey. ADIPOSE TISSUE: BLOOD PLASMA: POLYCHLORINATED BIPHENYLS: OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, E. Seligman, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

(NEXT PAGE)

(CONTINUED)

1,1'-Biphenyl, 2,2',3,4,5'-pentachloro-
36380-02-8
C12-H5-Cl5
MW 326.82

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6976 Blood, plasma		GC	26	0.6-2 ug/ml	1 ug/ml Median	Capacitor manufacture workers. 1976 Clinical health survey. ADPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, E. Seligman, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,2',3,4,5,5'-hexachloro-
51908-16-8
C12-H4-Cl6
MW 362.86

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6977 Adipose		GC	26	0.05-0.7 ug/g	0.1 ug/g Median	Capacitor manufacture workers. 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition	Wolff, M.S. Thornton, J. Fischbein, A. Lille, E. Seligman, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6978 Blood, plasma		GC	26	0.2-2 ng/ml	0.7 ng/ml Median	Capacitor manufacture workers. 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition	Wolff, M.S. Thornton, J. Fischbein, A. Lille, E. Seligman, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,2',3,4,5,5',6-heptachloro-
52693-68-0
C12-H3-Cl7
MW 395.30

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6979 Adipose		GC	26	0.05-0.7 ug/g	0.2 ug/g Median	Capacitor manufacture workers. 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition	Wolff, M.S. Thornton, J. Fischbein, A. Lille, E. Seligman, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6980 Blood, plasma		GC	26	0.2-2 ng/ml	0.6 ng/ml Median	Capacitor manufacture workers. 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition	Wolff, M.S. Thornton, J. Fischbein, A. Lille, E. Seligman, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,2',3,5,5'-pentachloro-
5263-61-3
C12-85-C15
HW 326.42

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6981 Adipose		GC	26	0.08-0.3 ug/g	0.1 ug/g Median	Capacitor manufacture workers. 1976 Clinical health survey. ADPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, N. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6982 Blood, plasma		GC	26	0.6-2 ug/ml	0.9 ug/ml Median	Capacitor manufacture workers. 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition ADPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, N. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,2',3,5'-tetrachloro-
4166-39-5
C12-86-C1a
HW 291.98

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6983 Adipose		GC	26	0.1-5 ug/g	0.5 ug/g Median	Capacitor manufacture workers. 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition ADPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, N. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6984 Blood, plasma		GC	26	0.4-55 ug/ml	3 ug/ml Median	Capacitor manufacture workers. 1976 Clinical health survey. Relative concentrations used to calculate adipose-plasma partition ADPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, N. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,2',3,5',6-pentachloro-
26378-93-6
C12-85-C15
HW 326.42

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6985 Adipose		GC	26	0.05-2 ug/g	0.2 ug/g Median	Capacitor manufacture workers. 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition ADPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, N. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

(NEXT PAGE)

1,1'-Biphenyl, 2,2',3,5',6'-pentachloro-
36179-98-6
C12-H5-Cl5
MW 326.82

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6986 Blood, plasma		GC	26	0.3-9 ug/ml	1 ug/ml Median	Capacitor manufacture workers, 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition ADIPOSE TISSUE: BLOOD PLASMA: POLYCHLORINATED BIPHENYLS: OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, A.S. Thornton, J. Fischbein, A. Lills, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,2',4,4',5'-pentachloro-
36360-01-7
C12-H5-Cl5
MW 326.82

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6987 Adipose		GC	26	0.07-5 ug/g	1 ug/g Median	Capacitor manufacture workers, 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition ADIPOSE TISSUE: BLOOD PLASMA: POLYCHLORINATED BIPHENYLS: OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, A.S. Thornton, J. Fischbein, A. Lills, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6988 Blood, plasma		GC	26	0.4-12 ug/ml	4 ug/ml Median	Capacitor manufacture workers, 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition ADIPOSE TISSUE: BLOOD PLASMA: POLYCHLORINATED BIPHENYLS: OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, A.S. Thornton, J. Fischbein, A. Lills, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,2',4,4',5,5'-hexachloro-
35065-27-1
C12-H4-Cl6
MW 361

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6989 Adipose		GC	26	0.09-4 ug/g	1 ug/g Median	Capacitor manufacture workers, 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition ADIPOSE TISSUE: BLOOD PLASMA: POLYCHLORINATED BIPHENYLS: OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, A.S. Thornton, J. Fischbein, A. Lills, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6990 Blood	Ingestion	GC	10 a) 10 b) 9 c) 7	a) Not given b) Not given c) Not given	a) 2.51 ug- 0.36 ppb b) 0.12 ug- 0.07 ppb c) 0.15 ug- 0.07 ppb	a) Taiwan, PCB poisoning b) Japan, PCB poisoning c) Japan, controls Few months (a) and 5 yr (b) after ingesting contaminated rice oil. TAIWAN: JAPAN: BLOOD: CHLORINATED HYDROCARBONS: POLYCHLORINATED BIPHENYLS: BIOACCUMULATION: FOOD CONTAMINATION: POPULATION EXPOSURE: INDUSTRIAL CHEMICALS	Wanida, Y. Kuroki, H. Tsai, T. Tsai, T. Kawachi, K. Kawachi, K. Hsu, S.T. 1981 Chemosphere 11(2):199-206

(SEE PAGE)

(CONTINUED)

1,1'-biphenyl, 2,2',4,4',5,5'-hexachloro-
7660-75-2
C12-85-C16
NW 361

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6991 Blood, plasma		GC	26	0.7-12 ng/ml	5 ng/ml Median	Capacitor manufacture workers. 1976 clinical health survey. Relative levels used to calculate adipose-plasma partition ADIPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, S. Seilkoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-biphenyl, 2,2',4,4',5,5'-pentachloro-
7660-75-2
C12-85-C15
NW 326-42

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6992 Adipose		GC	26	0.07-0.5 ug/g	0.1 ug/g Median	Capacitor manufacture workers. 1976 clinical health survey. Relative levels used to calculate adipose-plasma partition ADIPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, S. Seilkoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6993 Blood, plasma		GC	26	0.4-6 ng/ml	0.9 ng/ml Median	Capacitor manufacture workers. 1976 clinical health survey. ADIPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, S. Seilkoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-biphenyl, 2,2',4,4',5'-tetrachloro-
6144-46-8
C12-86-C14
NW 291-98

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6994 Adipose		GC	26	0.06-4 ug/g	0.3 ug/g Median	Capacitor manufacture workers. 1976 clinical health survey. Relative concentrations used to calculate adipose-plasma partition ADIPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, S. Seilkoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6995 Blood, plasma		GC	26	0.2-42 ng/ml	2 ng/ml Median	Capacitor manufacture workers. 1976 clinical health survey. Relative concentrations used to calculate adipose-plasma partition ADIPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lille, S. Seilkoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,2',5,5'-tetrachloro-
35693-98-3
C12-H8-Cl4
MW 291.98

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6996 Adipose		GC	26	0.07-3 ug/g	0.5 ug/g Median	Capacitor manufacture workers. 1976 clinical health survey. Relative concentrations used to calculate adipose-plasma partition	Wolff, M.S. Thornton, J. Flachbein, A. Lille, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6997 Blood, plasma		GC	26	0.5-23 ug/ml	4 ug/ml Median	ADIPOSE TISSUE: BLOOD PLASMA: POLYCHLORINATED BIPHENYLS: OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Flachbein, A. Lille, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,3,3',4,4',5-hexachloro-
38360-08-4
C12-H4-Cl6
MW 361

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
6998 Adipose		GC	26	0.08-2 ug/g	0.4 ug/g Median	Capacitor manufacture workers. 1976 clinical health survey. Relative levels used to calculate adipose-plasma partition	Wolff, M.S. Thornton, J. Flachbein, A. Lille, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
6999 Blood	Ingestion	GC	a) 10 b) 7 c) 7	a) Not given b) Not given c) Not given	a) 1.79 μ g- 0.63 ppb b) 0.28 μ g- 0.02 ppb c) 0.04 μ g- 0.02 ppb	ADIPOSE TISSUE: BLOOD PLASMA: POLYCHLORINATED BIPHENYLS: OCCUPATIONAL HAZARDS: INDUSTRIES	Masuda, Y. Kikuchi, M. Yasutake, T. Haraguchi, K. Katsunuma, M. Hsu, S.T. 1981 Chemosphere 11(2): 199-206
7000 Blood, plasma		GC	26	0.2-5 ug/ml	2.4 ug/ml Median	TAIWAN: JAPAN: BLOOD: CHLORINATED HYDROCARBONS: POLYCHLORINATED BIPHENYLS: BIOACCUMULATION: FOOD CONTAMINATION: POPULATION EXPOSURE: INDUSTRIAL CHEMICALS	Wolff, M.S. Thornton, J. Flachbein, A. Lille, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,3,3',4,5,5'-hexachloro-
39635-35-3
C12-84-C16
HW 340.86

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7001 Adipose		GC	26	0.05-1 ug/g	0.3 ug/g Median	Capacitor manufacture workers. 1976 clinical health survey. Relative levels used to calculate adipose-plasma partition	Wolff, M.S. Thornton, J. Fischbein, A. Lille, N. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
7002 Blood, plasma		GC	26	0.4-4 ug/ml	1 ug/ml Median	Capacitor manufacture workers. 1976 clinical health survey. Relative levels used to calculate adipose-plasma partition	Wolff, M.S. Thornton, J. Fischbein, A. Lille, N. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,3,3',4',5'-pentachloro-
70428-68-9
C12-85-C15
HW 326.82

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7003 Adipose		GC	26	0.09-0.2 ug/g	0.1 ug/g Median	Capacitor manufacture workers. 1976 clinical health survey.	Wolff, M.S. Thornton, J. Fischbein, A. Lille, N. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
7004 Blood, plasma		GC	26	0.4-1 ug/ml	0.6 ug/ml Median	Capacitor manufacture workers. 1976 clinical health survey.	Wolff, M.S. Thornton, J. Fischbein, A. Lille, N. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,1'-Biphenyl, 2,3,3',4',6'-pentachloro-
36380-03-9
C12-85-C15
HW 326.82

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7005 Adipose		GC	26	0.07-0.3 ug/g	0.1 ug/g Median	Analytically indistinguishable from 1,1',3,4'-tetrachlorobiphenyl. Capacitor manufacture workers. 1976 clinical health survey.	Wolff, M.S. Thornton, J. Fischbein, A. Lille, N. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

(SEE PAGE)

(CONTINUED)

1,1'-Biphenyl, 2,3',4',5',6-pentachloro-
3880-03-9
C12-83-C13
MW 326.42

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7006 Blood, plasma		GC	26	0.3-1 ng/ml	0.5 ng/ml Median	Analytically indistinguishable from 3,4,3',4'-tetrachlorobiphenyl Capacitor manufacture workers. 1976 Clinical health survey. Relative concentration used to calculate adipose-plasma partition ADIPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lillis, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:298-306

1,1'-Biphenyl, 2,3',4',5',6-pentachloro-
5263-12-6
C12-84-C16
MW 340.86

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7007 Adipose		GC	26	0.05-0.8 ug/g	0.1 ug/g Median	Capacitor manufacture workers. 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition ADIPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lillis, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:298-306
7008 Blood, plasma		GC	26	0.2-2 ug/ml	0.5 ug/ml Median	Capacitor manufacture workers. 1976 Clinical health survey. Relative levels used to calculate adipose-plasma partition ADIPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lillis, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:298-306

1,1'-Biphenyl, 2,4,4'-trichloro-
7012-37-5
C12-87-C13
MW 257.84

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7009 Adipose		GC	26	0.5-183 ug/g	9 ug/g Median	Capacitor manufacture workers. 1976 Clinical health survey. Relative concentration used to calculate adipose-plasma partition ADIPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lillis, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:298-306
7010 Blood, plasma		GC	26	1-850 ng/ml	27 ng/ml Median	Analytically indistinguishable from 2,5,6-trichlorobiphenyl Capacitor manufacture workers. 1976 Clinical health survey Relative concentration used to calculate adipose-plasma partition ADIPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S. Thornton, J. Fischbein, A. Lillis, R. Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:298-306

1,1'-Bisphenyl, 3,3',4,5'-tetrachloro-
 1145-1150
 C12-8C-C16
 MW 291.98

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7011 Adipose		GC	26	0.03-6 ug/g	0.9 ug/g	Analytically indistinguishable from 2,3,4,5'-tetrachlorobiphenyl. Capacitor manufacture workers. 1976 clinical health survey. Relative levels used to calculate adipose-plasma partition.	Wolff, M.S., Thornton, J., Fischbein, A., Lillie, E., Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306
7012 Blood, plasma		GC	26	0.7-29 ug/ml	3 ug/ml Median	Analytically indistinguishable from 2,3,4,5'-tetrachlorobiphenyl. Capacitor manufacture workers. 1976 clinical health survey. Relative levels used to calculate adipose-plasma partition. ADIPOSE TISSUE: BLOOD PLASMA; POLYCHLORINATED BIPHENYLS; OCCUPATIONAL HAZARDS: INDUSTRIES	Wolff, M.S., Thornton, J., Fischbein, A., Lillie, E., Selikoff, I.J. 1982 Toxicology and Applied Pharmacology 62:294-306

1,2-Benzisothiazol-3-one, 1,1-dioxide (8 CI)
 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide (9 CI)
 81-07-2
 C7-H5-N-O3-S
 MW 183.2, MF 228 C (Monop), BP (sublimes)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7013 Blood, plasma	Ingestion	NPIC	a) 3 b) 1 c) 2	a) 1120-2156 ug/ml b) Not applicable c) 550-575 ug/ml	a) 1533 ug/ml b) 983 ug/ml c) 562 ug/ml	a) Peak level 0.5-1.0 hr after 75 ug/6 hr. area under the concentration-time curve (AUC), 43.6-69.4 ug hr/ml b) Peak level 0.5 hr after 50 ug/6 hr, AUC, 44.4 ug hr/ml c) Peak level 0.5 hr after 25 ug/6 hr, AUC, 44.2-62.4 ug hr/ml Dose given 4x/day for 3 days prior to measurement 27-43 yr old (mean 37), wt 58-96 kg (mean 78) normal subjects, used saccharine regularly ADULTS: BLOOD PLASMA: URINE: FOOD ADDITIVES: SWEETENING AGENTS	Colburn, W.A., Nelson, I., Blumenthal, H.P. 1981 Clinical Pharmacology and Therapeutics 30(4):558-563
7014 Blood, plasma	Injection Ingestion	NPIC	3	a) 75-0.5 ug/ml b) 10-2 ug/ml c) 27-11.0 ug/ml d) 14-11.0 ug/ml	a) Not given b) Not given c) Not given d) Not given	a) 5 and 400 min after 10 ug/kg IV by same as a), plus 500 ug probenecid 12 and 2 hr before and 2 hr after saccharin c) 0.5-1.0 and >25 hr after 2.0 g oral, after overnight fast d) 1.5-2 and >25 hr after 2.0 g oral, 1-2 hr after a meal Range of means, estimated from graph 25-37 yr olds, wt 77-126 kg, United Kingdom BLOOD PLASMA: URINE: COMPARATIVE EVALUATIONS: FOOD ADDITIVES: SWEETENING AGENTS: UNITED KINGDOM	Sweetman, T.E., Sweetman, C.D., Barquera, C.D. 1981 Xenobiotica 11(8):531-540

(SEE PAGE)

(CONTINUED)

1,2-Benzisothiazolin-3-one, 1,1-dioxide (8 CI)
 1,2-Benzisothiazolin-3(2H)-one, 1,1-dioxide (9 CI)
 81-07-2
 C7-H5-N-O3-S
 MW 163.2, BP 228 C (decamp), BP (sublimes)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7015 Blood, plasma	Ingestion	GC/MS	a) 5 b) 5 c) 5	a) 1.83-0.5 ug/ml b) 9.34-1.5 ug/ml c) 13.77-2.0 ug/ml	a) Not given b) Not given c) Not given	a) 50 mg/60 kg b) 150 mg/60 kg c) 333 mg/60 kg 30-40 and 240 min after dose. Levels at 5 min. < 2 ug/ml No significant changes, some levels estimated from graph Healthy volunteers BLOOD PLASMA; URINE; SWEETENING AGENTS	Pantarotto, C. Salama, W. Garattini, S. 1981 Toxicology Letters 9:367-371
7016 Urine	Ingestion	HPLC	a) 3 b) 1 c) 2	a) 77-105 mg b) Not applicable c) 32-34 mg	a) 91 mg b) 75 mg c) 33 mg	a) 75 mg/6 hr b) 50 mg/6 hr c) 25 mg/6 hr Doses given kg/day for 3 days prior to measurements Excreted 0-6 hr after last dose 27-43 yr old (mean 32), wt 54-96 kg (mean 74), normal subjects, used saccharine regularly ADULTS; BLOOD PLASMA; URINE; FOOD ADDITIVES; SWEETENING AGENTS	Colburn, W.A. Baker, I. Brenneman, H.P. 1981 Clinical Pharmacology and Therapeutics 30(4):558-563
7017 Urine	Ingestion	HPLC	3	a) 66.0-91.3% of dose b) 81.7-88.5% of dose c) 98.6-105.3% of dose d) 97.2-100.7% of dose	a) 89.2 + or - 7.6% of dose b) 86.2 + or - 3.5% of dose c) 101.1 + or - 3.6% of dose d) 98.9 + or - 1.8% of dose	a) 0-96 hr after 2.0 g oral, after overnight fast b) 0-96 hr after 2.0 g oral, 1-2 hr after meal c) 0-48 hr after 10 mg/kg IV d) Same as c) plus 500 mg probenecid 12 and 24 hr before and 2 hr after saccharin 25-37 yr olds, wt 77-126 kg, United Kingdom ELOOD PLASMA; URINE; COMPARATIVE EVALUATIONS; FOOD ADDITIVES; SWEETENING AGENTS; UNITED KINGDOM	Sweetman, T.W. Bennick, A.G. Burchard, C.D. 1981 Toxicology Letters 11(6):511-540
7018 Urine	Ingestion	GC/MS	a) 5 b) 5 c) 5	a) Not given b) Not given c) Not given	a) 46.7 mg b) 124.4 mg c) 265.3 mg	a) 78.0% of 50 mg/40 kg dose b) 74.0% of 150 mg/60 kg dose c) 74.9% of 333 mg/60 kg dose Cumulative 24 hr output Healthy volunteers BLOOD PLASMA; URINE; SWEETENING AGENTS	Pantarotto, C. Salama, W. Garattini, S. 1981 Toxicology Letters 9:367-371

1,3-Cycloheptadiene (No postings in CHEMLINE).
 C7-H10
 MW 98.16, BP 120-121 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7019 Breath		GC/MS	26	0.05-0.27 ug/l	0.12 ug/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROPRENE	Kotomazaki, B. Gaskell, R. O'Mell, H. Claudio, H.P.A. 1977 Journal of Chromatographic Science 15: 239-244

1,3,4-Metheno-2H-cyclobeta (cd) pentalen-2-one, 1, 1a, 3, 3a, 4, 5, 5a, 5b, 6-decachlorooctahydro-
 143-50-0
 C10-Cl10-O
 MW 490.68, VP <3x10 (E-7) mm Hg at 25 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7020 Adipose						Review. Reoperation not effective in removing chlordecone from blood of industrially exposed workers. Oral administration of cholestyramine, increased fecal excretion of pesticide and accelerated disappearance from body Workers at Kepone manufacturing plant, VA Appendicular tremor, opsoclonus, irritability, sensory loss, anxiety. Liver damage and low motile sperm count VIRGINIA: ADULTS; LIVER DISEASES; NERVOUS SYSTEM DISEASES; ADIPOSE TISSUE; BILE; BLOOD; FECES; LIVER; MUSCLES; INDUSTRIAL MEDICINES; CHLORINE ORGANIC COMPOUNDS; PESTICIDES; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES	Guzellian, P.S. 1981 Journal of Toxicology and Environmental Health 8:757-766
7021 Bile						Review. Reoperation not effective in removing chlordecone from blood of industrially exposed workers. Oral administration of cholestyramine, increased fecal excretion of pesticide and accelerated disappearance from body Workers at Kepone manufacturing plant, VA Appendicular tremor, opsoclonus, irritability, sensory loss, anxiety. Liver damage and low motile sperm count VIRGINIA: ADULTS; LIVER DISEASES; NERVOUS SYSTEM DISEASES; ADIPOSE TISSUE; BILE; BLOOD; FECES; LIVER; MUSCLES; INDUSTRIAL MEDICINES; CHLORINE ORGANIC COMPOUNDS; PESTICIDES; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES	Guzellian, P.S. 1981 Journal of Toxicology and Environmental Health 8:757-766

(NEXT PAGE)

1,3,4-Metheno-2H-cyclobeta (cd)pentalen-2-one, 1,1a,3,3a,4,5,5a,5b,6-de a-chlorooctahydro-
 1,3,4-Metheno-2H-cyclobeta (cd)pentalen-2-one, 1,1a,3,3a,4,5,5a,5b,6-de a-chlorooctahydro-
 C10-Cl10
 BR 490.68, TP <3T10 (E-7) == Bg at 25 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	REAR	GENERAL INFORMATION	REFERENCE
7022 Blood						Review. Hemoperfusion not effective in removing chloroform from blood of industrially exposed workers. Oral administration of cholestyramine, increased fecal excretion of pesticide and accelerated disappearance from body Workers at Kepone manufacturing plant, VA Appendicular tremor, opsoclonus. Irritability, sensory loss, anxiety. Liver damage and low motile sperm count VIRGINIA: ADULTS; LIVER DISEASES: NERVOUS SYSTEM DISEASES: ADIPOSE TISSUE: BILE: BLOOD: PECES: LIVER: MUSCLES: INDUSTRIAL MEDICINE: CHLORINE ORGANIC COMPOUNDS: PESTICIDES: HEALTH HAZARDS: OCCUPATIONAL HAZARDS: PESTICIDE RESIDUES	Guzellian, P.S. 1981 Journal of Toxicology and Environmental Health 8:757-766
7023 Liver						Review. Hemoperfusion not effective in removing chloroform from blood of industrially exposed workers. Oral administration of cholestyramine, increased fecal excretion of pesticide and accelerated disappearance from body Workers at Kepone manufacturing plant, VA Appendicular tremor, opsoclonus. Irritability, sensory loss, anxiety. Liver damage and low motile sperm count VIRGINIA: ADULTS; LIVER DISEASES: NERVOUS SYSTEM DISEASES: ADIPOSE TISSUE: BILE: BLOOD: PECES: LIVER: MUSCLES: INDUSTRIAL MEDICINE: CHLORINE ORGANIC COMPOUNDS: PESTICIDES: HEALTH HAZARDS: OCCUPATIONAL HAZARDS: PESTICIDE RESIDUES	Guzellian, P.S. 1981 Journal of Toxicology and Environmental Health 8:757-766
7024 Muscle						Review. Hemoperfusion not effective in removing chloroform from blood of industrially exposed workers. Oral administration of cholestyramine, increased fecal excretion of pesticide and accelerated disappearance from body Workers at Kepone manufacturing plant, VA Appendicular tremor, opsoclonus. Irritability, sensory loss, anxiety. Liver damage and low motile sperm count VIRGINIA: ADULTS; LIVER DISEASES: NERVOUS SYSTEM DISEASES: ADIPOSE TISSUE: BILE: BLOOD: PECES: LIVER: MUSCLES: INDUSTRIAL MEDICINE: CHLORINE ORGANIC COMPOUNDS: PESTICIDES: HEALTH HAZARDS: OCCUPATIONAL HAZARDS: PESTICIDE RESIDUES	Guzellian, P.S. 1981 Journal of Toxicology and Environmental Health 8:757-766

1,3,5-Cycloheptatriene
 58-25-2
 C7-H8
 HS 92.15, BP -79.49 C, BP 117 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7025 Breath		GC/MS	26	1.9-7.3 ng/l	3.8 ng/l	Exhaled from graph Healthy 18-60 yr old nonsmokers. Sigis protocol 14 days before and during study to minimize under and amount of exogenous constituents. ADULTS: BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Kotomazaki, B. Sakai, G. Owaki, M. Clandio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8a-hexahydro-, endo,exo- (3 & 1)
 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8a-hexahydro-, (1a,10a,4a,8a,8a,10a,10a,10a)- (9 C1)
 309-00-2
 C12-H8-Cl6
 MW 365.93, BP 106 C, VP 6X10⁻⁶ mm Hg at 25 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7026 Blood		GC	100	a) Not detected-143.5 ppb b) Not given c) 22.1 d) Not given e) 20.4 f) Not given g) Not given	a) 21.2 b) 20.6 c) 22.1 d) 17.9 e) 20.4 f) 23.9 g) 20.8	a) All subjects b) 40 subjects, ages 18-25 yr c) 40 subjects, ages 26-34 yr d) 42 subjects, vegetarians e) 56 subjects, non-vegetarians f) 43 subjects, rural g) 57 subjects, urban Maternal blood, collected 9-12 hr before parturition Residents of Lucknow, India INDIA: ADULTS; AGE; PETS; BLOOD; EXTRACT: CHLORINE ORGANIC COMPOUNDS; DOB: DOB; DBY: HEXACHLOROCYCLOHEXANE; LINDANE: PESTICIDES; AGRICULTURE; BIOACCUMULATION: DIETS; PREGNANCY; RURAL AREAS: URBAN AREAS; PESTICIDE RESIDUES; POPULATION EXPOSURE	Saxena, M.C. Siddiqui, A.K.J. Bhargava, A.K. Kishna Murli, C.B. Kutty, D. 1981 Archives of Toxicology 48:127-134
7027 Blood, fetal		GC	100	a) Not detected-253.3 ppb b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 19.8 b) 18.5 c) 22.6 d) 34.9 e) 17.3 f) 14.9 g) 22.8	a) All subjects b) 36 subjects, other's age 18-25 yr c) 36 subjects, other's age 26-34 yr d) 36 subjects, vegetarians e) 54 subjects, non-vegetarian mothers f) 42 subjects, rural g) 44 subjects, urban Cord blood, collected at delivery d) and e) f) and g) significantly different Residents of Lucknow, India INDIA: ADULTS; AGE; PETS; BLOOD; EXTRACT: CHLORINE ORGANIC COMPOUNDS; DOB: DOB; DBY: HEXACHLOROCYCLOHEXANE; LINDANE: PESTICIDES; AGRICULTURE; BIOACCUMULATION: DIETS; PREGNANCY; RURAL AREAS: URBAN AREAS; PESTICIDE RESIDUES; POPULATION EXPOSURE	Saxena, M.C. Siddiqui, A.K.J. Bhargava, A.K. Kishna Murli, C.B. Kutty, D. 1981 Archives of Toxicology 48:127-134

(NEXT PAGE)

1,4,5,8-Diethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, endo,exo- (8 CI)
 365-5,8-Diethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,5alpha,6beta,7alpha,8alpha,8beta)- (9 CI)

112-88-C16

NU 365,93, NP 104 C, VP 6X10 (E-6) as Hq at 25 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7028 Placenta		GC	100	a) Not detected-83.3 ppb b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 12.7 *or- 20.4 ppb b) 12.2 *or- 12.9 ppb c) 12.1 *or- 27.5 ppb d) 13.6 *or- 22.5 ppb e) 15.3 *or- 29.0 ppb f) 12.3 *or- 18.7 ppb g) 12.3 *or- 18.7 ppb	a) All subjects b) 80 subjects, ages 18-25 yr c) 80 subjects, ages 26-30 yr d) 82 subjects, vegetarians e) 84 subjects, non-vegetarians f) 83 subjects, rural g) 57 subjects, urban Tissue collected at delivery Residents of Lucknow, India TYPICAL ANALYTES: AGE: FEETUS: BLOOD: PLACENTA: CHLORINATED ORGANIC COMPOUNDS: DDT: DDE: DDT: HEXACHLOROCYCLOHEXANE: LINDANE: PESTICIDES: AGRICULTURE: BIOACCUMULATION: DIETS: PREGNANCY: POPUL AREAS: URBAN AREAS: PESTICIDE RESIDUES: POPULATION EXPOSURE	Satena, M.C. Siddiqui, M.K.J. Kishore, M.K. Kishore, M.K., C.B. Kishore, M. Kishore, M. 1981 Archives of Toxicology 88:127-136

1,4,5,8-Diethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo,exo- (8 CI)
 2,7,3,6-Diethanonaphthalene(2,3-b)isotere, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1alpha,2beta,2beta,2delta,3alpha,6alpha,7alpha,8alpha,8beta)- (9 CI)

75-20-8

C12-88-C16-C

NU 380,9, NP 200 C (Accomp), also reported as 245 C (Accomp)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7029 Adipose		GC	a) 19 b) 9 c) 9	a) Not detected b) Not detected c) Not detected-0.02 ug/g	a) Not applicable b) Not applicable c) Not given	a) Torreon, Mexico. Agricultural region with high pesticide use b) Mexico City. Pesticide exposure mainly from foods shipped in from other areas c) Puebla. Industrial and traditional agricultural region with low pesticide use (2 samples >0.01 ug/g) Levels based on extractable lipids. Nondetectable levels=0.005 ug/g Residents of Mexico MEXICO: ADIPOSES: ADIPOSE TISSUE: SECRECY: CHLORINATED HYDROCARBONS: CHLORINATED ORGANIC COMPOUNDS: DDT: DDE: DDT: DIELDRIN: HEXACHLOROCYCLOHEXANE: LINDANE: PESTICIDES: PESTICIDE RESIDUES: POPULATION EXPOSURE: URBAN AREAS	Albert, L. Sander, P. Cebrian, M.E. Portales, A. 1980 Archives of Environmental Health 35(5):462-289

1,4,5,8-Diethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo,exo- (8 CI)
 2,7,7,8-Tetrachlorodibenzodioxin, 1,2,3,4,7,8-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, (1a,1a',2,2a,2a',3,3a,3a',4,4a,4a',5,5a,5a',6,6a,6a',7,7a-octachloro-1,2,3,4,7,8-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo,exo- (8 CI)
 6,6'-Dibenzodioxin, 1,2,3,4,7,8-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, (1a,1a',2,2a,2a',3,3a,3a',4,4a,4a',5,5a,5a',6,6a,6a',7,7a-octachloro-1,2,3,4,7,8-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo,exo- (8 CI)
 C12-88-C16-0
 NW 380.93, BP 176-177 C, VP 7.78X10 (E-7) as Bq at 20 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7030 Adipose		GC	a) 19 b) 9 c) 9	a) 0.05-0.24 ug/g b) Not detected-0.49 ug/g c) Not detected-0.12 ug/g	a) 0.06 *or- 0.07 ug/g b) 0.18 *or- 0.15 ug/g c) Not given	a) Torreon, Mexico. Agricultural region with high pesticide use (11 samples >0.01 ug/g) b) Mexico City. Pesticide exposure solely from foods shipped in from other areas (8 samples >0.01 ug/g) c) Puebla. Industrial and traditional agricultural region with low pesticide use (2 samples >0.01 ug/g) Levels based on extractable lipids. Nondetectable lev. less 0.005 ug/g Residents of Mexico MEXICO; AUTOPSIES; ADIPOSE TISSUE; SURGERY; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BDD; DBE; DDT; DIELDRIN; HEPTACHLOROCYCLOPHENYLENE; DDT; PESTICIDES; PESTICIDE RESIDUES; POPULATION EXPOSURE; SPERMATOPHYTES	Albert, L. Mender, F. Cebrian, N.R. Portales, A. 1980 Archivos de Environmental Health 35(5):262-269

2-Butanol, 3-methyl-
 58-75-a
 C5-812-0
 NW 68.15, BP 128 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7031 Breath		GC/MS	26	0.09-1.9 mg/l	0.4 mg/l	Estimated from graph Healthy 18-40 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ACUTS; SPERMATOPHYTES; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotosynski, R. Gabriel, G. O'Neill, R. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

2-Methanol, 3,3-diethyl-
 75-97-8
 C6-812-0
 NW 100.16, BP -89.8 C, BP 106 C at 760 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7032 Breath		GC/MS	26	0.2-2.1 mg/l	0.65 mg/l	Estimated from graph Healthy 18-40 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ACUTS; SPERMATOPHYTES; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotosynski, R. Gabriel, G. O'Neill, R. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	SEAL	GENERAL INFORMATION	REFERENCE
7013 Breath		GC/MS	28	0.15-8.5 mg/l	1.7 mg/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Valid protocol 14 days before and during study to eliminate number and amount of exogenous constituents. ADULTS; BREATH; ALCOHOLS; CMOPTHE CHROMATOGRAPHIC SCIENCE 15: 239-246	Kotoszyski, B. Garcial, G. O'Neill, R. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15: 239-246

2-Picene (6 CI)
Bicyclo(3.1.1)hept-2-ene, 2,6,6-trimethyl- (9 CI)

80-56-8
C10-H16
80 136.23, 80 155-156 C

TESTS	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	SEAS	GENERAL INFORMATION	REFERENCE
7034 Blood	Ingestion	GC/MS	1	17-23 mg/ml	Not applicable	1 and 6 days after ingesting 400-500 ml pine oil which contained 5% alpha pinene Fetaliated from graph 49 yr old, wt 85 kg, attempted suicide Headache, erythema of mouth and larynx, flushed face, ataxia, spontaneous hyperventilation, 10 hr after ingestion, impaired consciousness, drop in blood pressure, leukocytosis BLOOD: URINE: METABOLISM: METABOLITES: INDUSTRIAL CHEMICALS: SOLVENTS	Koppel, C. Tenczer, J. Tonnessen, G. Schrop, T. Ibe, K. 1981 Archives of Toxicology 49:73-78
7035 Urine	Ingestion	GC/MS	1	Not applicable	100 mg	10 day cumulative excretion of metabolite (formylacetate) of alpha pinene, after ingesting 400-500 ml pine oil (5% alpha pinene) 49 yr old, wt 85 kg, attempted suicide Headache, erythema of mouth and larynx, flushed face, ataxia, spontaneous hyperventilation, 10 hr after ingestion, impaired consciousness, drop in blood pressure, leukocytosis BLOOD: URINE: METABOLISM: METABOLITES: INDUSTRIAL CHEMICALS: SOLVENTS	Koppel, C. Tenczer, J. Tonnessen, G. Schrop, T. Ibe, K. 1981 Archives of Toxicology 49:73-78

2,2-Dimethyl-3-benzoxane (No postings in CHEMLINE).
 C8-H16-O
 MW 126.22, BP 145-146 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7036 Breath		GC/MS	28	0.23-1.8 ng/l	0.65 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENE	Krotosky, R. Gabriel, G. O'Neill, R. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

2,2-Dimethylhexanol (No postings in CHEMLINE).
 2370-13-0
 C8-H18-O
 MW 136.26

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7037 Breath		GC/MS	28	0.28-8 ng/l	1 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENE	Krotosky, R. Gabriel, G. O'Neill, R. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

2,2-Dimethyloctanol (No postings in CHEMLINE).
 2370-18-1
 C10-H22-O
 MW 156.29

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7038 Breath		GC/MS	28	0.35-4.5 ng/l	1.3 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENE	Krotosky, R. Gabriel, G. O'Neill, R. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

2,2,3,3-Tetramethylhexane (No postings in CHEMLINE).
 13475-81-5
 C10-H22
 MW 142.32, BP 160.3 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7039 Breath		GC/MS	28	0.38-3.6 ng/l	1.2 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENE	Krotosky, R. Gabriel, G. O'Neill, R. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

2,2,5,5-Tetrachloroethane (No postings in CHEMLIST).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7040 Breath		GC/MS	28	0.15-1.5 mg/l	0.45 mg/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Kotowasyl, B. Gabriel, G. O'Neill, M. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

2,3,3-Trimethylhexane (No postings in CHEMLIST).
CS-H2-O
MW 126.25, BP 137.7 C, VP 10.1 mm Hg at 25 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7041 Breath		GC/MS	28	0.35-3.3 mg/l	1.1 mg/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Kotowasyl, B. Gabriel, G. O'Neill, M. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

2,3,3,4-Tetraethylpentane (No postings in CHEMLIST).
CS-H2-O
MW 126.25, BP -102.123 C, VP 101.551 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7042 Breath		GC/MS	28	0.4-3 mg/l	1.4 mg/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Kotowasyl, B. Gabriel, G. O'Neill, M. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

3-Methanone, 2-ethyl-
12015-0-0
CS-H2-O
MW 126.24

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7043 Breath		GC/MS	28	0.2-1.6 mg/l	0.55 mg/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS; BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Kotowasyl, B. Gabriel, G. O'Neill, M. Claudio, M.P.A. 1977 Journal of Chromatographic Science 15:239-244

3-Heptanone, 5-ethyl-
541-85-5
CB-816-O
BW 128.22, BP 160.5 C, VP 2.0 mm Hg at 25 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	SEAN	GENERAL INFORMATION	REFERENCE
7044 Breath		GC/MS	28	0.08-0.35 ug/l	0.18 ug/l	Estimated from graph Healthy 18-40 yr olds, nonsmokers. Piglet protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBIPHENYLS	Krotoszynski, B. Gabriel, G. O'Neill, R. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

3-Methanone, 2,8-diethyl-
18641-70-8
CB-816-O
BW 128.21, BP 185 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	SEAN	GENERAL INFORMATION	REFERENCE
7045 Breath		GC/MS	28	0.035-0.52 ug/l	0.13 ug/l	Estimated from graph Healthy 18-40 yr olds, nonsmokers. Piglet protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBIPHENYLS	Krotoszynski, B. Gabriel, G. O'Neill, R. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

3-Heptan-1-ol, (E)-
928-13-2
CB-816-O
BW 100.16, BP 156-157 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	SEAN	GENERAL INFORMATION	REFERENCE
7046 Breath		GC/MS	28	0.5-6 ug/l	1.8 ug/l	Estimated from graph Healthy 18-40 yr olds, nonsmokers. Piglet protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBIPHENYLS	Krotoszynski, B. Gabriel, G. O'Neill, R. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

3-Pentanone, 2-methyl-
565-69-5
CS-812-O
MW 100.16, BP 114.5-115 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7047 Breath		GC/MS	28	0.09-0.55 ng/l	0.23 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotoszynski, B. Gabriel, G. O'Neill, H. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

3,3-Diethylpentane (No postings in CHEMLINE).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7048 Breath		GC/MS	28	0.09-0.9 ng/l	0.3 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotoszynski, B. Gabriel, G. O'Neill, H. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

3,4-Dimethylheptane (No postings in CHEMLINE).
922-28-1
CS-82-O
MW 126.25, BP 140.6 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7049 Breath		GC/MS	28	0.55-5 ng/l	1.5 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotoszynski, B. Gabriel, G. O'Neill, H. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

n-Nonanal, (E)-
2277-16-9
CS-816-O

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7050 Breath		GC/MS	28	0.45-9 ng/l	2.3 ng/l	Estimated from graph Healthy 18-60 yr olds, nonsmokers. Rigid protocol 14 days before and during study to minimize number and amount of exogenous constituents. ADULTS: BREATH; ALCOHOLS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES	Krotoszynski, B. Gabriel, G. O'Neill, H. Claudio, R.P.A. 1977 Journal of Chromatographic Science 15:239-244

4,4'-Bipyridinium, 1,1'-diethyl-
4685-18-7
C12-H14-N2
MW 186, BP 300 C (decamp)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7051 Erie	Ingestion	Colorimetry	2	0.10-3.0 ppm	Not given	Suicide victims 28 and 57 yr old Caucasians, California Nausea, muscle cramps, anuria, hypotension, shock Lungs heavy and airless with congestion, edema, and fibrosis. Bronchi and trachea contained thick bloody liquid. Liver enlarged with greenish or yellow discoloration and centrilobular necrosis. Acute tubular necrosis of kidney. Cortical necrosis and focal hemorrhages of adrenal. CALIFORNIA; ADULTS; AUTOPSIES; SUICIDE; BLOOD PLASMA; URINE; MEASUREMENT METHODS; PESTICIDES	Russell, L.A. Stone, B.E. Rooney, P.A. 1981 Clinical Toxicology 18(8):915-928
7052 Blood, plasma	Ingestion	Colorimetry	a) 1 b) 1	a) Not given b) >0.25-0.041 ppm	a) 1.5 ppm b) Not given	a) 30 hr after 2.5 cups of 21% solution. Postmortem sample 0.5 ppm b) 20 hr and 13 days after 0.5 cups of 20% solution Suicides 28 yr old Caucasians and 18 yr old Oriental, California Nausea, muscle cramps, anuria, hypotension, shock Lungs heavy and airless with congestion, edema, and fibrosis. Bronchi and trachea contained thick bloody liquid. Liver enlarged with greenish or yellow discoloration and centrilobular necrosis. Acute tubular necrosis of kidney. Cortical necrosis and focal hemorrhages of adrenal. CALIFORNIA; ADULTS; AUTOPSIES; SUICIDE; BLOOD PLASMA; URINE; MEASUREMENT METHODS; PESTICIDES	Russell, L.A. Stone, B.E. Rooney, P.A. 1981 Clinical Toxicology 18(8):915-928
7053 Brain	Ingestion	Colorimetry	3	0.09-0.3 ppm	Not given	Suicide victims 18 yr old Oriental and 28 and 57 yr old Caucasians, California Nausea, muscle cramps, anuria, hypotension, shock Lungs heavy and airless with congestion, edema, and fibrosis. Bronchi and trachea contained thick bloody liquid. Liver enlarged with greenish or yellow discoloration and centrilobular necrosis. Acute tubular necrosis of kidney. Cortical necrosis and focal hemorrhages of adrenal. CALIFORNIA; ADULTS; AUTOPSIES; SUICIDE; BLOOD PLASMA; URINE; MEASUREMENT METHODS; PESTICIDES	Russell, L.A. Stone, B.E. Rooney, P.A. 1981 Clinical Toxicology 18(8):915-928

(SEE PAGE)

4,4'-Dipyrrolic acid, 1,1'-diethyl-
 485-18-7
 12-14-22
 No 186, NR 300 C (Recap)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	DEATH	GENERAL INFORMATION	REFERENCE
7054 Heart	Ingestion	Colorimetry	3	0.01-0.11 ppm	Not given	Selfie victims 18 yr old Oriental and 28 and 57 yr old Caucasians, California Nausea, muscle cramps, anuria, hypotension, shock Lungs heavy and airless with congestion, edema, and fibrosis. Bronchi and trachea contained thick bloody liquid. Liver enlarged with greenish or yellow discoloration and centrilobular necrosis. Acute tubular necrosis of kidney. Cortical necrosis and focal hemorrhages of adrenal. CALIFORNIA: ADULTS: AUTOPSIES: SPECIFIC: BLOOD PLASMA: PERIUMAL FLUID: TESTS: MEASUREMENT METHODS: PESTICIDES	Russell, L.A. Stone, R.E. Rooney, P.A. 1981 Clinical Toxicology 18(6):915-928
7055 Kidney	Ingestion	Colorimetry	3	0.02-7.0 ppm	Not given	Selfie victims 18 yr old Oriental and 28 and 57 yr old Caucasians, California Nausea, muscle cramps, anuria, hypotension, shock Lungs heavy and airless with congestion, edema, and fibrosis. Bronchi and trachea contained thick bloody liquid. Liver enlarged with greenish or yellow discoloration and centrilobular necrosis. Acute tubular necrosis of kidney. Cortical necrosis and focal hemorrhages of adrenal. CALIFORNIA: ADULTS: AUTOPSIES: SPECIFIC: BLOOD PLASMA: PERIUMAL FLUID: TESTS: MEASUREMENT METHODS: PESTICIDES	Russell, L.A. Stone, R.E. Rooney, P.A. 1981 Clinical Toxicology 18(6):915-928
7056 Liver	Ingestion	Colorimetry	3	0.12-2.0 ppm	Not given	Selfie victims 18 yr old Oriental and 28 and 57 yr old Caucasians, California Nausea, muscle cramps, anuria, hypotension, shock Lungs heavy and airless with congestion, edema, and fibrosis. Bronchi and trachea contained thick bloody liquid. Liver enlarged with greenish or yellow discoloration and centrilobular necrosis. Acute tubular necrosis of kidney. Cortical necrosis and focal hemorrhages of adrenal. CALIFORNIA: ADULTS: AUTOPSIES: SPECIFIC: BLOOD PLASMA: PERIUMAL FLUID: TESTS: MEASUREMENT METHODS: PESTICIDES	Russell, L.A. Stone, R.E. Rooney, P.A. 1981 Clinical Toxicology 18(6):915-928

(SEE PAGE)

4,4'-bipyridine, 3,3'-diethyl-
465-14-7
C12-814-22
NW 186, NP 300 C (decomp)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7057 Lung	Ingestion	Colorimetry	3	0.05-3.0 ppm	Not given	Suicide victims 18 yr old Oriental and 28 and 57 yr old Caucasians, California Nausea, muscle cramps, anuria, hypotension, shock Lungs heavy and airless with congestion, edema, and fibrosis. Bronchi and trachea contained thick bloody liquid. Liver enlarged with greenish or yellow discoloration and centrilobular necrosis. Acute tubular necrosis of kidney. Cortical necrosis and focal hemorrhages of adrenal. CALIFORNIA: ADULTS: AUTOPSIES: SUICIDE; BLOOD PLASMA; PLEURAL FLUID; URINE; MEASUREMENT METHODS: PESTICIDES	Russell, L.A. Stone, S.E. Roney, P.A. 1981 Clinical Toxicology 18(8):915-928
7058 Pleural fluid	Ingestion	Colorimetry	1	Not given	0.049 ppm	3 days after 0.5 cups of 20% solution, suicide victim 18 yr old Oriental, California Nausea, muscle cramps, anuria, hypotension, shock Lungs heavy and airless with congestion, edema, and fibrosis. Bronchi and trachea contained thick bloody liquid. Liver enlarged with greenish or yellow discoloration and centrilobular necrosis. Acute tubular necrosis of kidney. Cortical necrosis and focal hemorrhages of adrenal. CALIFORNIA: ADULTS: AUTOPSIES: SUICIDE; BLOOD PLASMA; PLEURAL FLUID; URINE; MEASUREMENT METHODS: PESTICIDES	Russell, L.A. Stone, S.E. Roney, P.A. 1981 Clinical Toxicology 18(8):915-928
7059 Spleen			1	Not applicable	3.0 ppm	Suicide victim 28 yr old, California Nausea, muscle cramps, anuria, hypotension, shock Lungs heavy and airless with congestion, edema, and fibrosis. Bronchi and trachea contained thick bloody liquid. Liver enlarged with greenish or yellow discoloration and centrilobular necrosis. Acute tubular necrosis of kidney. Cortical necrosis and focal hemorrhages of adrenal. CALIFORNIA: ADULTS: AUTOPSIES: SUICIDE; BLOOD PLASMA; PLEURAL FLUID; URINE; MEASUREMENT METHODS: PESTICIDES	Russell, L.A. Stone, S.E. Roney, P.A. 1981 Clinical Toxicology 18(8):915-928

(NEXT PAGE)

6,6'-Bipyridinium, 1,1'-diethyl-
6685-18-7
C12-H14-N2
MW 186, MP 300 C (decomp)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7060 Urine	Ingestion	Colorimetry	a) 1 b) 1	a) 37-6.27 ppm b) Not given	a) Not given b) 18 ppm	a) 20 hr and 13 days after 0.5 cups of 20% solution b) Postmortem 2 days after 2.5 cups of 21% solution Suicides 16 yr old Oriental and 28 yr old Caucasian, California Masses, muscle cramps, anuria, hypotension, shock Lungs heavy and airless with congestive edema and fibrin. Bronchi and trachea contained thick bloody liquid. Liver enlarged with greenish or yellow discoloration and centrilobular necrosis. Acute tubular necrosis of kidney. Cortical necrosis and focal hemorrhages of adrenal. CALIFORNIA: ADULTS: AUTOPSIES: SECTION: BLOOD PLASMA: PLEURAL FLUID: URINE: MEASUREMENT METHODS: PESTICIDES	Russell, L.A. Stone, B.E. Hosney, F.A. 1981 Clinical Toxicology 18(8):915-928

(2,2'-Bipyridin)-6-(1H)-one, 5-amino-
6685-18-7
C10-H8-N2-O
MW 187.22

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7061 Blood, Plasma	Injection Ingestion	HPLC	a) 4 b) 7	a) 3.4-1.3 ug/ml b) 12-30 ug/ml	a) Not given b) Not given	a) 45 min and 2 hr after 1.5 mg/kg IV bolus and sustained infusion of 5 ug/kg/min. Final measurement 1.7 ug/ml at 10 hr b) 0.5 and 1.5 hr after 3 mg/kg oral. Final measurement 1.5 ug/ml at 5 hr Range of means, estimated from graphs Patients with congestive heart failure HEART DISEASE: BLOOD PLASMA: DRUG THERAPY: Doses	Zeilmann, J. LeJeune, T.H. Aloud, A.A. Biddlecome, C. Maskie, C.S. Sonnenblick, E.H. 1981 Clinical Pharmacology and Therapeutics 29(6):723-728

Acetamide, N-methyl-2-(2,6-dichlorophenyl)- (9 CI)
Benzeneacetamide, N-(aminoisomethyl)-2,6-dichloro- (9 CI)
2910-47-2
C9H9Cl2N2O
RN 296.11

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7062 Blood, plasma	Injection Ingestion	GC/MS	18	a) 3.5-2.7 ng/ml b) 3.0-1.9 ng/ml	a) Not given b) Not given	a) Day 5 of therapy b) 48 hr after last dose Dose 3 mg/day Levels not significantly correlated with degree of renal impairment 21-65 yr old hypertensive patients with glomerular filtration rate between 3.8-113 ml/min. GERMANY: HYPERTENSION; KIDNEY DISEASES; BLOOD PLASMA; URINE; ANTI-HYPERTENSIVE AGENTS; DRUGS; GERMANY	Kirch, W. Kohler, H. Graub, W. Gitzki, C.V. 1980 Clinical Pharmacokinetics 5:476-483
7063 Blood, serum	Injection	GC/MS		a) 21-2 ng/ml b) 12-2 ng/ml	a) Not given b) Not given	a) Hypertensive patients with normal renal function b) Geriatric patients Initial measurement and 48 hr after 3 mg, IV Range of means estimated from graph GERMANY: HYPERTENSION; KIDNEY DISEASES; BLOOD PLASMA; URINE; ANTI-HYPERTENSIVE AGENTS; DRUGS	Kirch, W. Kohler, H. Graub, W. Gitzki, C.V. 1980 Clinical Pharmacokinetics 5:476-483
7066 Urine	Injection	GC-EC	a) 6 b) 6 c) 6	a) Not given b) Not given c) Not given	a) 57 $\pm$ 32.0% (1.71 g) b) 14.0 $\pm$ 9.0% (0.42 g) c) 7.5 $\pm$ 2.4% (0.23 g)	a) Normal renal function b) Moderate renal impairment c) Geriatric patients Cumulative excretion up to 48 hr after 3 mg, IV 21-65 yr old hypertensive patients GERMANY: HYPERTENSION; KIDNEY DISEASES; BLOOD PLASMA; URINE; ANTI-HYPERTENSIVE AGENTS; DRUGS; GERMANY	Kirch, W. Kohler, H. Graub, W. Gitzki, C.V. 1980 Clinical Pharmacokinetics 5:476-483

DRUGS

328

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7065 blood, plasma	Ingestion	Fluorometry	6	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 531 $\pm$ 59 μ g/ml b) 250 $\pm$ 50 μ g/ml c) 463 $\pm$ 56 μ g/ml d) 463 $\pm$ 56 μ g/ml e) 410 $\pm$ 48 μ g/ml f) 325 $\pm$ 27 μ g/ml g) 360 $\pm$ 58 μ g/ml h) 518 $\pm$ 80 μ g/ml S.E.	a) Single dose 100 mg b) Single dose 100 mg plus 500 mg Ca c) Single dose 100 mg plus 5, 6 g d) Single dose 100 mg plus 10 mg e) Single dose 100 mg plus 40 mg f) Dose as in a) for 6 days g) Dose as in c) for 6 days h) Dose as in d) for 6 days Took level 2.5-3.0 hr after last dose Al(III): decreased mean peak 20% Ca: decreased mean peak 10% and increased elimination half-life Healthy 25-32 yr olds	Kirsch, W. Schäfer-Pertini, W. Knebel, T. Knebel, H. Winkler, E. 1961 Clinical Pharmacology and Therapeutics 10(4):429-435
7066 blood, plasma	Ingestion	GC	a) 5 b) 5 c) 5 d) 5	a) 0.5-0.03 μ g/ml b) 0.6-0.2 μ g/ml c) 0.8-0.06 μ g/ml d) 1.1-0.05 μ g/ml	a) Not given b) Not given c) Not given d) Not given	ADULTS; BLOOD PLASMA; URINE; ANTIARRHYTHMIC AGENTS; ANTIINFLAMMATORY AGENTS; DIURETICS; DRUG THERAPY; DRUGS; ALUMINUM; CALCIUM; BLOOD PRESSURE a) 1 and 3 hr after 25 mg b) 2 and 4 hr after 50 mg. Initial measurement 0.03 μ g/ml at 1 hr c) 1 and 4 hr after 100 mg d) 2 and 4 hr after 200 mg. Initial measurement 0.04 μ g/ml at 1 hr Range of means, estimated from graph Healthy 16-33 yr olds Duration of cardiac beta blocking activity determined by elimination half life and dose.	HARON, D.M.S. HARRIS, R. WATSON, C.D. WILSON, F. RUSSELL, C.J. SHANKS, L.S. 1961 Clinical Pharmacology and Therapeutics 25(3):286-332
7067 urine	Ingestion	Fluorometry	6	a) 1.9-5.0 μ g b) Not applicable c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given	a) 4.4 $\pm$ 0.2 μ g b) 1.1 $\pm$ 0.1 μ g c) 3.1 $\pm$ 0.3 μ g d) 3.1 $\pm$ 0.3 μ g e) 4.8 $\pm$ 0.8 μ g f) 4.7 $\pm$ 0.8 μ g g) 4.7 $\pm$ 0.8 μ g h) 3.6 $\pm$ 0.3 μ g i) 3.1 $\pm$ 0.3 μ g j) 3.6 $\pm$ 0.3 μ g S.E.	a) After 5 at 17, 8 subjects b) After 20 mg 17, 8 subjects c) After single oral dose, 100 mg, 8 subjects d) After single oral dose, 100 mg, 8 subjects e) After single oral dose, 100 mg, 8 subjects f) After single oral dose, 100 mg, 8 subjects g) After single oral dose, 100 mg, 8 subjects h) After single oral dose, 100 mg, 8 subjects i) After single oral dose, 100 mg, 8 subjects j) Dose as in c) for 6 days, 8 subjects k) Dose as in d) for 6 days, 8 subjects l) Dose as in e) for 6 days, 8 subjects m) Dose as in f) for 6 days, 8 subjects n) Dose as in g) for 6 days, 8 subjects o) Dose as in h) for 6 days, 8 subjects p) Dose as in i) for 6 days, 8 subjects q) Dose as in j) for 6 days, 8 subjects r) Dose as in k) for 6 days, 8 subjects s) Dose as in l) for 6 days, 8 subjects t) Dose as in m) for 6 days, 8 subjects u) Dose as in n) for 6 days, 8 subjects v) Dose as in o) for 6 days, 8 subjects w) Dose as in p) for 6 days, 8 subjects x) Dose as in q) for 6 days, 8 subjects y) Dose as in r) for 6 days, 8 subjects z) Dose as in s) for 6 days, 8 subjects aa) Dose as in t) for 6 days, 8 subjects ab) Dose as in u) for 6 days, 8 subjects ac) Dose as in v) for 6 days, 8 subjects ad) Dose as in w) for 6 days, 8 subjects ae) Dose as in x) for 6 days, 8 subjects af) Dose as in y) for 6 days, 8 subjects ag) Dose as in z) for 6 days, 8 subjects ah) Dose as in aa) for 6 days, 8 subjects ai) Dose as in ab) for 6 days, 8 subjects aj) Dose as in ac) for 6 days, 8 subjects ak) Dose as in ad) for 6 days, 8 subjects al) Dose as in ae) for 6 days, 8 subjects am) Dose as in af) for 6 days, 8 subjects an) Dose as in ag) for 6 days, 8 subjects ao) Dose as in ah) for 6 days, 8 subjects ap) Dose as in ai) for 6 days, 8 subjects aq) Dose as in aj) for 6 days, 8 subjects ar) Dose as in ak) for 6 days, 8 subjects as) Dose as in al) for 6 days, 8 subjects at) Dose as in am) for 6 days, 8 subjects au) Dose as in an) for 6 days, 8 subjects av) Dose as in ao) for 6 days, 8 subjects aw) Dose as in ap) for 6 days, 8 subjects ax) Dose as in aq) for 6 days, 8 subjects ay) Dose as in ar) for 6 days, 8 subjects az) Dose as in as) for 6 days, 8 subjects ba) Dose as in at) for 6 days, 8 subjects bb) Dose as in au) for 6 days, 8 subjects bc) Dose as in av) for 6 days, 8 subjects bd) Dose as in aw) for 6 days, 8 subjects be) Dose as in ax) for 6 days, 8 subjects bf) Dose as in ay) for 6 days, 8 subjects bg) Dose as in az) for 6 days, 8 subjects bh) Dose as in ba) for 6 days, 8 subjects bi) Dose as in bb) for 6 days, 8 subjects bj) Dose as in bc) for 6 days, 8 subjects bk) Dose as in bd) for 6 days, 8 subjects bl) Dose as in be) for 6 days, 8 subjects bm) Dose as in bf) for 6 days, 8 subjects bn) Dose as in bg) for 6 days, 8 subjects bo) Dose as in bh) for 6 days, 8 subjects bp) Dose as in bi) for 6 days, 8 subjects bq) Dose as in bj) for 6 days, 8 subjects br) Dose as in bk) for 6 days, 8 subjects bs) Dose as in bl) for 6 days, 8 subjects bt) Dose as in bm) for 6 days, 8 subjects bu) Dose as in bn) for 6 days, 8 subjects bv) Dose as in bo) for 6 days, 8 subjects bw) Dose as in bp) for 6 days, 8 subjects bx) Dose as in bq) for 6 days, 8 subjects by) Dose as in br) for 6 days, 8 subjects bz) Dose as in bs) for 6 days, 8 subjects ca) Dose as in bt) for 6 days, 8 subjects cb) Dose as in bu) for 6 days, 8 subjects cc) Dose as in bv) for 6 days, 8 subjects cd) Dose as in bw) for 6 days, 8 subjects ce) Dose as in bx) for 6 days, 8 subjects cf) Dose as in by) for 6 days, 8 subjects cg) Dose as in bz) for 6 days, 8 subjects ch) Dose as in ca) for 6 days, 8 subjects ci) Dose as in cb) for 6 days, 8 subjects cj) Dose as in cc) for 6 days, 8 subjects ck) Dose as in cd) for 6 days, 8 subjects cl) Dose as in ce) for 6 days, 8 subjects cm) Dose as in cf) for 6 days, 8 subjects cn) Dose as in cg) for 6 days, 8 subjects co) Dose as in ch) for 6 days, 8 subjects cp) Dose as in ci) for 6 days, 8 subjects cq) Dose as in cj) for 6 days, 8 subjects cr) Dose as in ck) for 6 days, 8 subjects cs) Dose as in cl) for 6 days, 8 subjects ct) Dose as in cm) for 6 days, 8 subjects cu) Dose as in cn) for 6 days, 8 subjects cv) Dose as in co) for 6 days, 8 subjects cw) Dose as in cp) for 6 days, 8 subjects cx) Dose as in cq) for 6 days, 8 subjects cy) Dose as in cr) for 6 days, 8 subjects cz) Dose as in cs) for 6 days, 8 subjects da) Dose as in ct) for 6 days, 8 subjects db) Dose as in cu) for 6 days, 8 subjects dc) Dose as in cv) for 6 days, 8 subjects dd) Dose as in cw) for 6 days, 8 subjects de) Dose as in cx) for 6 days, 8 subjects df) Dose as in cy) for 6 days, 8 subjects dg) Dose as in cz) for 6 days, 8 subjects dh) Dose as in da) for 6 days, 8 subjects di) Dose as in db) for 6 days, 8 subjects dj) Dose as in dc) for 6 days, 8 subjects dk) Dose as in dd) for 6 days, 8 subjects dl) Dose as in de) for 6 days, 8 subjects dm) Dose as in df) for 6 days, 8 subjects dn) Dose as in dg) for 6 days, 8 subjects do) Dose as in dh) for 6 days, 8 subjects dp) Dose as in di) for 6 days, 8 subjects dq) Dose as in dj) for 6 days, 8 subjects dr) Dose as in dk) for 6 days, 8 subjects ds) Dose as in dl) for 6 days, 8 subjects dt) Dose as in dm) for 6 days, 8 subjects du) Dose as in dn) for 6 days, 8 subjects dv) Dose as in do) for 6 days, 8 subjects dw) Dose as in dp) for 6 days, 8 subjects dx) Dose as in dq) for 6 days, 8 subjects dy) Dose as in dr) for 6 days, 8 subjects dz) Dose as in ds) for 6 days, 8 subjects ea) Dose as in dt) for 6 days, 8 subjects eb) Dose as in du) for 6 days, 8 subjects ec) Dose as in dv) for 6 days, 8 subjects ed) Dose as in dw) for 6 days, 8 subjects ee) Dose as in dx) for 6 days, 8 subjects ef) Dose as in dy) for 6 days, 8 subjects eg) Dose as in dz) for 6 days, 8 subjects eh) Dose as in ea) for 6 days, 8 subjects ei) Dose as in eb) for 6 days, 8 subjects ej) Dose as in ec) for 6 days, 8 subjects ek) Dose as in ed) for 6 days, 8 subjects el) Dose as in ee) for 6 days, 8 subjects em) Dose as in ef) for 6 days, 8 subjects en) Dose as in eg) for 6 days, 8 subjects eo) Dose as in eh) for 6 days, 8 subjects ep) Dose as in ei) for 6 days, 8 subjects eq) Dose as in ej) for 6 days, 8 subjects er) Dose as in ek) for 6 days, 8 subjects es) Dose as in el) for 6 days, 8 subjects et) Dose as in em) for 6 days, 8 subjects eu) Dose as in en) for 6 days, 8 subjects ev) Dose as in eo) for 6 days, 8 subjects ew) Dose as in ep) for 6 days, 8 subjects ex) Dose as in eq) for 6 days, 8 subjects ey) Dose as in er) for 6 days, 8 subjects ez) Dose as in es) for 6 days, 8 subjects fa) Dose as in et) for 6 days, 8 subjects fb) Dose as in eu) for 6 days, 8 subjects fc) Dose as in ev) for 6 days, 8 subjects fd) Dose as in ew) for 6 days, 8 subjects fe) Dose as in ex) for 6 days, 8 subjects ff) Dose as in ey) for 6 days, 8 subjects fg) Dose as in ez) for 6 days, 8 subjects fh) Dose as in fa) for 6 days, 8 subjects fi) Dose as in fb) for 6 days, 8 subjects fj) Dose as in fc) for 6 days, 8 subjects fk) Dose as in fd) for 6 days, 8 subjects fl) Dose as in fe) for 6 days, 8 subjects fm) Dose as in ff) for 6 days, 8 subjects fn) Dose as in fg) for 6 days, 8 subjects fo) Dose as in fh) for 6 days, 8 subjects fp) Dose as in fi) for 6 days, 8 subjects fq) Dose as in fj) for 6 days, 8 subjects fr) Dose as in fk) for 6 days, 8 subjects fs) Dose as in fl) for 6 days, 8 subjects ft) Dose as in fm) for 6 days, 8 subjects fu) Dose as in fn) for 6 days, 8 subjects fv) Dose as in fo) for 6 days, 8 subjects fw) Dose as in fp) for 6 days, 8 subjects fx) Dose as in fq) for 6 days, 8 subjects fy) Dose as in fr) for 6 days, 8 subjects fz) Dose as in fs) for 6 days, 8 subjects ga) Dose as in ft) for 6 days, 8 subjects gb) Dose as in fu) for 6 days, 8 subjects gc) Dose as in fv) for 6 days, 8 subjects gd) Dose as in fw) for 6 days, 8 subjects ge) Dose as in fx) for 6 days, 8 subjects gf) Dose as in fy) for 6 days, 8 subjects gg) Dose as in fz) for 6 days, 8 subjects gh) Dose as in ga) for 6 days, 8 subjects gi) Dose as in gb) for 6 days, 8 subjects gj) Dose as in gc) for 6 days, 8 subjects gk) Dose as in gd) for 6 days, 8 subjects gl) Dose as in ge) for 6 days, 8 subjects gm) Dose as in gf) for 6 days, 8 subjects gn) Dose as in gg) for 6 days, 8 subjects go) Dose as in gh) for 6 days, 8 subjects gp) Dose as in gi) for 6 days, 8 subjects gq) Dose as in gj) for 6 days, 8 subjects gr) Dose as in gk) for 6 days, 8 subjects gs) Dose as in gl) for 6 days, 8 subjects gt) Dose as in gm) for 6 days, 8 subjects gu) Dose as in gn) for 6 days, 8 subjects gv) Dose as in go) for 6 days, 8 subjects gw) Dose as in gp) for 6 days, 8 subjects gx) Dose as in gq) for 6 days, 8 subjects gy) Dose as in gr) for 6 days, 8 subjects gz) Dose as in gs) for 6 days, 8 subjects ha) Dose as in gt) for 6 days, 8 subjects hb) Dose as in gu) for 6 days, 8 subjects hc) Dose as in gv) for 6 days, 8 subjects hd) Dose as in gw) for 6 days, 8 subjects he) Dose as in gx) for 6 days, 8 subjects hf) Dose as in gy) for 6 days, 8 subjects hg) Dose as in gz) for 6 days, 8 subjects hh) Dose as in ha) for 6 days, 8 subjects hi) Dose as in hb) for 6 days, 8 subjects hj) Dose as in hc) for 6 days, 8 subjects hk) Dose as in hd) for 6 days, 8 subjects hl) Dose as in he) for 6 days, 8 subjects hm) Dose as in hf) for 6 days, 8 subjects hn) Dose as in hg) for 6 days, 8 subjects ho) Dose as in hh) for 6 days, 8 subjects hp) Dose as in hi) for 6 days, 8 subjects hq) Dose as in hj) for 6 days, 8 subjects hr) Dose as in hk) for 6 days, 8 subjects hs) Dose as in hl) for 6 days, 8 subjects ht) Dose as in hm) for 6 days, 8 subjects hu) Dose as in hn) for 6 days, 8 subjects hv) Dose as in ho) for 6 days, 8 subjects hw) Dose as in hp) for 6 days, 8 subjects hx) Dose as in hq) for 6 days, 8 subjects hy) Dose as in hr) for 6 days, 8 subjects hz) Dose as in hs) for 6 days, 8 subjects ia) Dose as in ht) for 6 days, 8 subjects ib) Dose as in hu) for 6 days, 8 subjects ic) Dose as in hv) for 6 days, 8 subjects id) Dose as in hw) for 6 days, 8 subjects ie) Dose as in hx) for 6 days, 8 subjects if) Dose as in hy) for 6 days, 8 subjects ig) Dose as in hz) for 6 days, 8 subjects ih) Dose as in ia) for 6 days, 8 subjects ii) Dose as in ib) for 6 days, 8 subjects ij) Dose as in ic) for 6 days, 8 subjects ik) Dose as in id) for 6 days, 8 subjects il) Dose as in ie) for 6 days, 8 subjects im) Dose as in if) for 6 days, 8 subjects in) Dose as in ig) for 6 days, 8 subjects io) Dose as in ih) for 6 days, 8 subjects ip) Dose as in ii) for 6 days, 8 subjects iq) Dose as in ij) for 6 days, 8 subjects ir) Dose as in ik) for 6 days, 8 subjects is) Dose as in il) for 6 days, 8 subjects it) Dose as in im) for 6 days, 8 subjects iu) Dose as in in) for 6 days, 8 subjects iv) Dose as in io) for 6 days, 8 subjects iw) Dose as in ip) for 6 days, 8 subjects ix) Dose as in iq) for 6 days, 8 subjects iy) Dose as in ir) for 6 days, 8 subjects iz) Dose as in is) for 6 days, 8 subjects ja) Dose as in it) for 6 days, 8 subjects jb) Dose as in iu) for 6 days, 8 subjects jc) Dose as in iv) for 6 days, 8 subjects jd) Dose as in iw) for 6 days, 8 subjects je) Dose as in ix) for 6 days, 8 subjects jf) Dose as in iy) for 6 days, 8 subjects jg) Dose as in iz) for 6 days, 8 subjects jh) Dose as in ja) for 6 days, 8 subjects ji) Dose as in jb) for 6 days, 8 subjects jj) Dose as in jc) for 6 days, 8 subjects jk) Dose as in jd) for 6 days, 8 subjects jl) Dose as in je) for 6 days, 8 subjects jm) Dose as in jf) for 6 days, 8 subjects jn) Dose as in jg) for 6 days, 8 subjects jo) Dose as in jh) for 6 days, 8 subjects jp) Dose as in ji) for 6 days, 8 subjects jq) Dose as in jj) for 6 days, 8 subjects jr) Dose as in jk) for 6 days, 8 subjects js) Dose as in jl) for 6 days, 8 subjects jt) Dose as in jm) for 6 days, 8 subjects ju) Dose as in jn) for 6 days, 8 subjects jv) Dose as in jo) for 6 days, 8 subjects jw) Dose as in jp) for 6 days, 8 subjects jx) Dose as in jq) for 6 days, 8 subjects jy) Dose as in jr) for 6 days, 8 subjects jz) Dose as in js) for 6 days, 8 subjects ka) Dose as in jt) for 6 days, 8 subjects kb) Dose as in ju) for 6 days, 8 subjects kc) Dose as in jv) for 6 days, 8 subjects kd) Dose as in jw) for 6 days, 8 subjects ke) Dose as in jx) for 6 days, 8 subjects kf) Dose as in jy) for 6 days, 8 subjects kg) Dose as in jz) for 6 days, 8 subjects kh) Dose as in ka) for 6 days, 8 subjects ki) Dose as in kb) for 6 days, 8 subjects kj) Dose as in kc) for 6 days, 8 subjects kk) Dose as in kd) for 6 days, 8 subjects kl) Dose as in ke) for 6 days, 8 subjects km) Dose as in kf) for 6 days, 8 subjects kn) Dose as in kg) for 6 days, 8 subjects ko) Dose as in kh) for 6 days, 8 subjects kp) Dose as in ki) for 6 days, 8 subjects kq) Dose as in kj) for 6 days, 8 subjects kr) Dose as in kk) for 6 days, 8 subjects ks) Dose as in kl) for 6 days, 8 subjects kt) Dose as in km) for 6 days, 8 subjects ku) Dose as in kn) for 6 days, 8 subjects kv) Dose as in ko) for 6 days, 8 subjects kw) Dose as in kp) for 6 days, 8 subjects kx) Dose as in kq) for 6 days, 8 subjects ky) Dose as in kr) for 6 days, 8 subjects kz) Dose as in ks) for 6 days, 8 subjects la) Dose as in kt) for 6 days, 8 subjects lb) Dose as in ku) for 6 days, 8 subjects lc) Dose as in kv) for 6 days, 8 subjects ld) Dose as in kw) for 6 days, 8 subjects le) Dose as in kx) for 6 days, 8 subjects lf) Dose as in ky) for 6 days, 8 subjects lg) Dose as in kz) for 6 days, 8 subjects lh) Dose as in la) for 6 days, 8 subjects li) Dose as in lb) for 6 days, 8 subjects lj) Dose as in lc) for 6 days, 8 subjects lk) Dose as in ld) for 6 days, 8 subjects ll) Dose as in le) for 6 days, 8 subjects lm) Dose as in lf) for 6 days, 8 subjects ln) Dose as in lg) for 6 days, 8 subjects lo) Dose as in lh) for 6 days, 8 subjects lp) Dose as in li) for 6 days, 8 subjects lq) Dose as in lj) for 6 days, 8 subjects lr) Dose as in lk) for 6 days, 8 subjects ls) Dose as in ll) for 6 days, 8 subjects lt) Dose as in lm) for 6 days, 8 subjects lu) Dose as in ln) for 6 days, 8 subjects lv) Dose as in lo) for 6 days, 8 subjects lw) Dose as in lp) for 6 days, 8 subjects lx) Dose as in lq) for 6 days, 8 subjects ly) Dose as in lr) for 6 days, 8 subjects lz) Dose as in ls) for 6 days, 8 subjects ma) Dose as in lt) for 6 days, 8 subjects mb) Dose as in lu) for 6 days, 8 subjects mc) Dose as in lv) for 6 days, 8 subjects md) Dose as in lw) for 6 days, 8 subjects me) Dose as in lx) for 6 days, 8 subjects mf) Dose as in ly) for 6 days, 8 subjects mg) Dose as in lz) for 6 days, 8 subjects mh) Dose as in ma) for 6 days, 8 subjects mi) Dose as in mb) for 6 days, 8 subjects mj) Dose as in mc) for 6 days, 8 subjects mk) Dose as in md) for 6 days, 8 subjects ml) Dose as in me) for 6 days, 8 subjects mn) Dose as in mf) for 6 days, 8 subjects mo) Dose as in mg) for 6 days, 8 subjects mp) Dose as in mh) for 6 days, 8 subjects mq) Dose as in mi) for 6 days, 8 subjects mr) Dose as in mj) for 6 days, 8 subjects ms) Dose as in mk) for 6 days, 8 subjects mt) Dose as in ml) for 6 days, 8 subjects mu) Dose as in mn) for 6 days, 8 subjects mv) Dose as in mo) for 6 days, 8 subjects mw) Dose as in mp) for 6 days, 8 subjects mx) Dose as in mq) for 6 days, 8 subjects my) Dose as in mr) for 6 days, 8 subjects mz) Dose as in ms) for 6 days, 8 subjects na) Dose as in mt) for 6 days, 8 subjects nb) Dose as in mu) for 6 days, 8 subjects nc) Dose as in mv) for 6 days, 8 subjects nd) Dose as in mw) for 6 days, 8 subjects ne) Dose as in mx) for 6 days, 8 subjects nf) Dose as in my) for 6 days, 8 subjects ng) Dose as in mz) for 6 days, 8 subjects nh) Dose as in na) for 6 days, 8 subjects ni) Dose as in nb) for 6 days, 8 subjects nj) Dose as in nc) for 6 days, 8 subjects nk) Dose as in nd) for 6 days, 8 subjects nl) Dose as in ne) for 6 days, 8 subjects nm) Dose as in nf) for 6 days, 8 subjects no) Dose as in ng) for 6 days, 8 subjects np) Dose as in nh) for 6 days, 8 subjects nq) Dose as in ni) for 6 days, 8 subjects nr) Dose as in nj) for 6 days, 8 subjects ns) Dose as in nk) for 6 days, 8 subjects nt) Dose as in nl) for 6 days, 8 subjects nu) Dose as in nm) for 6 days, 8 subjects nv) Dose as in no) for 6 days, 8 subjects nw) Dose as in np) for 6 days, 8 subjects nx) Dose as in nq) for 6 days, 8 subjects ny) Dose as in nr) for 6 days, 8 subjects nz) Dose as in ns) for 6 days, 8 subjects oa) Dose as in nt) for 6 days, 8 subjects ob) Dose as in nu) for 6 days, 8 subjects oc) Dose as in nv) for 6 days, 8 subjects od) Dose as in nw) for 6 days, 8 subjects oe) Dose as in nx) for 6 days, 8 subjects of) Dose as in ny) for 6 days, 8 subjects og) Dose as in nz) for 6 days, 8 subjects oh) Dose as in oa) for 6 days, 8 subjects oi) Dose as in ob) for 6 days, 8 subjects oj) Dose as in oc) for 6 days, 8 subjects ok) Dose as in od) for 6 days, 8 subjects ol) Dose as in oe) for 6 days, 8 subjects om) Dose as in of) for 6 days, 8 subjects on) Dose as in og) for 6 days, 8 subjects op) Dose as in oh) for 6 days, 8 subjects oq) Dose as in oi) for 6 days, 8 subjects or) Dose as in oj) for 6 days, 8 subjects os) Dose as in ok) for 6 days, 8 subjects ot) Dose as in ol) for 6 days, 8 subjects ou) Dose as in om) for 6 days, 8 subjects ov) Dose as in on) for 6 days, 8 subjects ow) Dose as in op) for 6 days, 8 subjects ox) Dose as in oq) for 6 days, 8 subjects oy) Dose as in or) for 6 days, 8 subjects oz) Dose as in os) for 6 days, 8 subjects pa) Dose as in ot) for 6 days, 8 subjects pb) Dose as in ou) for 6 days, 8 subjects pc) Dose as in ov) for 6 days, 8 subjects pd) Dose as in ow) for 6 days, 8 subjects pe) Dose as in ox) for 6 days, 8 subjects pf) Dose as in oy) for 6 days, 8 subjects pg) Dose as in oz) for 6 days, 8 subjects ph) Dose as in pa) for 6 days, 8 subjects pi) Dose as in pb) for 6 days, 8 subjects pj) Dose as in pc) for 6 days, 8 subjects pk) Dose as in pd) for 6 days, 8 subjects pl) Dose as in pe) for 6 days, 8 subjects pm) Dose as in pf) for 6 days, 8 subjects pn) Dose as in pg) for 6 days, 8 subjects po) Dose as in ph) for 6 days, 8 subjects pp) Dose as in pi) for 6 days, 8 subjects pq) Dose as in pj) for 6 days, 8 subjects pr) Dose as in pk) for 6 days, 8 subjects ps) Dose as in pl) for 6 days, 8 subjects pt) Dose as in pm) for 6 days, 8 subjects pu) Dose as in pn) for 6 days, 8 subjects pv) Dose as in po) for 6 days, 8 subjects pw) Dose as in pp) for 6 days, 8 subjects px) Dose as in pq) for 6 days, 8 subjects py) Dose as in pr) for 6 days, 8 subjects pz) Dose as in ps) for 6 days, 8 subjects qa) Dose as in pt) for 6 days, 8 subjects qb) Dose as in pu) for 6 days, 8 subjects qc) Dose as in pv) for 6 days, 8 subjects qd) Dose as in pw) for 6 days, 8 subjects qe) Dose as in px) for 6 days, 8 subjects qf) Dose as in py) for 6 days, 8 subjects qg) Dose as in pz) for 6 days, 8 subjects qh) Dose as in qa) for 6 days, 8 subjects qi) Dose as in qb) for 6 days, 8 subjects qj) Dose as in qc) for 6 days, 8 subjects qk) Dose as in qd) for 6 days, 8 subjects ql) Dose as in qe) for 6 days, 8 subjects qm) Dose as in qf) for 6 days, 8 subjects qn) Dose as in qg) for 6 days, 8 subjects qo) Dose as in qh) for 6 days, 8 subjects qp) Dose as in qi) for 6 days, 8 subjects qq) Dose as in qj) for 6 days, 8 subjects qr) Dose as in qk) for 6 days, 8 subjects qs) Dose as in ql) for 6 days, 8 subjects qt) Dose as in qm) for 6 days, 8 subjects qu) Dose as in qn) for 6 days, 8 subjects qv) Dose as in qo) for 6 days, 8 subjects qw) Dose as in qp) for 6 days, 8 subjects qx) Dose as in qq) for 6 days, 8 subjects qy) Dose as in qr) for 6 days, 8 subjects qz) Dose as in qs) for 6 days, 8 subjects ra) Dose as in qt) for 6 days, 8 subjects rb) Dose as in qu) for 6 days, 8 subjects rc) Dose as in qv) for 6 days, 8 subjects rd) Dose as in qw) for 6 days, 8 subjects re) Dose as in qx) for 6 days, 8 subjects rf) Dose as in qy) for 6 days, 8 subjects rg) Dose as in qz) for 6 days, 8 subjects rh) Dose as in ra) for 6 days, 8 subjects ri) Dose as in rb) for 6 days, 8 subjects rj) Dose as in rc) for 6 days, 8 subjects rk) Dose as in rd) for 6 days, 8 subjects rl) Dose as in re) for 6 days, 8 subjects rm) Dose as in rf) for 6 days, 8 subjects rn) Dose as in rg) for 6 days, 8 subjects ro) Dose as in rh) for 6 days, 8 subjects rp) Dose as in ri) for 6 days, 8 subjects rq) Dose as in rj) for 6 days, 8 subjects rs) Dose as in rk) for 6 days, 8 subjects rt) Dose as in rl) for 6 days, 8 subjects ru) Dose as in rm) for 6 days, 8 subjects rv) Dose as in rn) for 6 days, 8 subjects rw) Dose as in ro) for 6 days, 8 subjects rx) Dose as in rp) for 6 days, 8 subjects ry) Dose as in rq) for 6 days, 8 subjects rz) Dose as in rs) for 6 days, 8 subjects sa) Dose as in rt) for 6 days, 8 subjects sb) Dose as in ru) for 6 days, 8 subjects sc) Dose as in rv) for 6 days, 8 subjects sd) Dose as in rw) for 6 days, 8 subjects se) Dose as in rx) for 6 days, 8 subjects sf) Dose as in ry) for 6 days, 8 subjects sg) Dose as in rz) for 6 days, 8 subjects sh) Dose as in sa) for 6 days, 8 subjects si) Dose as in sb) for 6 days, 8 subjects sj) Dose as in sc) for 6 days, 8 subjects sk) Dose as in sd) for 6 days, 8 subjects sl) Dose as in se) for 6 days, 8 subjects sm) Dose as in sf) for 6 days, 8 subjects sn) Dose as in sg) for 6 days, 8 subjects so) Dose as in sh) for 6 days, 8 subjects sp) Dose as in si) for 6 days, 8 subjects sq) Dose as in sj) for 6 days, 8 subjects sr) Dose as in sk) for 6 days, 8 subjects st) Dose as in sl) for 6 days, 8 subjects su) Dose as in sm) for 6 days, 8 subjects sv) Dose as in sn) for 6 days, 8 subjects sw) Dose as in so) for 6 days, 8 subjects sx) Dose as in sp) for 6 days, 8 subjects sy) Dose as in sq) for 6 days, 8 subjects sz) Dose as in sr) for 6 days, 8 subjects ta) Dose as in st) for 6 days, 8 subjects tb) Dose as in su) for 6 days, 8 subjects tc) Dose as in sv) for 6 days, 8 subjects td) Dose as in sw) for 6 days, 8 subjects te) Dose as in sx) for 6 days, 8 subjects tf) Dose as in sy) for 6 days, 8 subjects tg) Dose as in sz) for 6 days, 8 subjects th) Dose as in ta) for 6 days, 8 subjects ti) Dose as in tb) for 6 days, 8 subjects tj) Dose as in tc) for 6 days, 8 subjects tk) Dose as in td) for 6 days, 8 subjects tl) Dose as in te) for 6 days, 8 subjects tm) Dose as in tf) for 6 days, 8 subjects tn) Dose as in tg) for 6 days, 8 subjects to) Dose as in th) for 6 days, 8 subjects tp) Dose as in ti) for 6 days, 8 subjects tq) Dose as in tj) for 6 days, 8 subjects tr) Dose as in tk) for 6 days, 8 subjects ts) Dose as in tl) for 6 days, 8 subjects tu) Dose as in tm) for 6 days, 8 subjects tv) Dose as in tn) for 6 days, 8 subjects tw) Dose as in to) for 6 days, 8 subjects tx) Dose as in tp) for 6 days, 8 subjects ty) Dose as in tq) for 6 days, 8 subjects tz) Dose as in tr) for 6 days, 8 subjects ua) Dose as in ts) for 6 days, 8 subjects ub) Dose as in tu) for 6 days, 8 subjects uc) Dose as in tv) for 6 days, 8 subjects ud) Dose as in tw) for 6 days, 8 subjects ue) Dose as in tx) for 6 days, 8 subjects uf) Dose as in ty) for 6 days, 8 subjects ug) Dose as in tz) for 6 days, 8 subjects uh) Dose as in ua) for 6 days, 8 subjects ui) Dose as in ub) for 6 days, 8 subjects uj) Dose as in uc) for 6 days, 8 subjects uk) Dose as in ud) for 6 days, 8 subjects ul) Dose as in ue) for 6 days, 8 subjects um) Dose as in uf) for 6 days, 8 subjects un) Dose as in ug) for 6 days, 8 subjects uo) Dose as in uh) for 6 days, 8 subjects up) Dose as in ui) for 6 days, 8 subjects uq) Dose as in uj) for 6 days, 8 subjects ur) Dose as in uk) for 6 days, 8 subjects us) Dose as in ul) for 6 days, 8 subjects ut) Dose as in um) for 6 days, 8 subjects uv) Dose as in un) for 6 days, 8 subjects uw) Dose as in uo) for 6 days, 8 subjects ux) Dose as in up) for 6 days, 8 subjects uy) Dose as in uq) for 6 days, 8 subjects uz) Dose as in ur) for 6 days, 8 subjects va) Dose as in us) for 6 days, 8 subjects vb) Dose as in ut) for 6 days, 8 subjects vc) Dose as in uv) for 6 days, 8 subjects vd) Dose as in uw) for 6 days, 8 subjects ve) Dose as in ux) for 6 days, 8 subjects vf) Dose as in uy) for 6 days, 8 subjects vg) Dose as in uz) for 6 days, 8 subjects vh) Dose as in va) for 6 days, 8 subjects vi) Dose as in vb) for 6 days, 8 subjects vj) Dose as in vc) for 6 days, 8 subjects vk) Dose as in vd) for 6 days, 8 subjects vl) Dose as in ve) for 6 days, 8 subjects vm) Dose as in vf) for 6 days, 8 subjects vn) Dose as in vg) for 6 days, 8 subjects vo) Dose as in vh) for 6 days, 8 subjects vp) Dose as in vi) for 6 days, 8 subjects vq) Dose as in vj) for 6 days, 8 subjects vr) Dose as in vk) for 6 days, 8 subjects vs) Dose as in vl) for 6 days, 8 subjects vt) Dose as in vm) for 6 days, 8 subjects vu) Dose as in vn) for 6 days, 8 subjects vv) Dose as in vo) for 6 days, 8 subjects vz) Dose as in vp) for 6 days, 8 subjects wa) Dose as in vt) for 6 days, 8 subjects wb) Dose as in vu) for 6 days, 8 subjects wc) Dose as in vv) for 6 days, 8 subjects wd) Dose as in vz) for 6 days, 8 subjects we) Dose as in wa) for 6 days, 8 subjects wf) Dose as in wb) for 6 days, 8 subjects wg) Dose as in wc) for 6 days, 8 subjects wh) Dose as in wd) for 6 days, 8 subjects wi) Dose as in we) for 6 days, 8 subjects wj) Dose as in wf) for 6 days, 8 subjects wk) Dose as in wg) for 6 days, 8 subjects wl) Dose as in wh) for 6 days, 8 subjects wm) Dose as in wi) for 6 days, 8 subjects 	

Acetamide, 2,2-dichloro-8-(beta-hydroxy-alpha-(hydroxymethyl)-p-nitrophenethyl)-, D-threo-(-)-, (8 CI)
 26-75-7
 C11-H12-Cl2-N2-O5
 MW 322.14, MP 150.5-151.5 °C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SURVIVAL OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7068 Blood, serum	Injection	CC	12	a) 3.94-76.84 ug/ml b) 0.41-3.9 ug/ml c) 9.3-66.67 ug/ml d) 3.66-43.7 ug/ml	a) 27.94 *or- 19.13 ug/ml b) 1.55 *or- 0.93 ug/ml c) 29.64 *or- 16.17 ug/ml d) 13.82 *or- 11.61 ug/ml	a) Peak levels chlorasphenicol succinate (prodrug) b) 5 hr, chlorasphenicol succinate c) Peak levels chlorasphenicol (metabolite) d) Trough levels chlorasphenicol Steady state Chlorasphenicol succinate, 100 mg/kg/day in 4 equal doses, 0.5-1 hr IV for at least 2 days before Steady-state measurements Data show incomplete hydrolysis of chlorasphenicol succinate to chlorasphenicol 2.5 mo-20 yr old patients CHILDREN; INFANTS; CENTRAL NERVOUS SYSTEM DISEASES; BLOOD SERUM; ANTIEPTICS; DRUG INTERACTION; DRUG THERAPY; DRUGS; METABOLISM; METABOLITES	Mabata, M.C. Powell, D.A. 1981 Clinical Pharmacology and Therapeutics 30 (3):368-372
7069 Blood, serum	Injection	Colorimetry	a) 8 b) 2	a) 50-28 ug/ml b) 6.7-52 ug/ml	a) Not applicable b) Not applicable	a) 2 and 6 hr after 25 mg/kg IV. Initial measurement in ug/ml b) Initial measurement and 2 hr after 25 mg/kg IV. Level at 6 hr 9.5 ug/ml. Phenobarbital also given a) Significantly higher than b) at 6 hr Range of means, estimated from graph 3-18 mo old infants, treated for meningitis, brain abscess, or pneumonia RESPIRATORY DISTRESS; INFANTS; CENTRAL NERVOUS SYSTEM DISEASES; BLOOD SERUM; ANTIEPTICS; DRUG INTERACTION; DRUG THERAPY; DRUGS	Burckart, G.J. Barrett, Z.P. Straughn, A.B. Ternullo, S.B. 1982 Journal of Clinical Pharmacology 22:49-52
7070 Urine	Injection	CC	12	a) 7.58K-32.58K b) 3.05K-25.6K	a) Not given b) Not given	a) Rechecked chlorasphenicol succinate (prodrug) b) Chlorasphenicol (metabolite) v of dose recovered during 6 hr interval After chlorasphenicol succinate, 100 mg/kg/day, in 4 equal doses, 0.5-1 hr IV for at least 2 days before measurement Data demonstrated incomplete hydrolysis of chlorasphenicol succinate to chlorasphenicol 2.5 mo-20 yr old patients CHILDREN; INFANTS; CENTRAL NERVOUS SYSTEM DISEASES; BLOOD SERUM; URINE; ANTIEPTICS; DRUG THERAPY; DRUGS; METABOLISM; METABOLITES	Mabata, M.C. Powell, D.A. 1981 Clinical Pharmacology and Therapeutics 30 (3):368-372

Acetanilide, 4'-hydroxy- (9 CI)
 Acetanilide, 4-(4-hydroxyphenyl)- (9 CI)
 1C3-90-2
 C8-89-W-02
 RW 151.16, RP 169-170.5 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	REMARK	GENERAL INFORMATION	REFERENCE
7071 Blood, plasma	Ingestion	RP/LC	1	270-40 ug/ml	Not given	7-5 and 30.5 hr after overdose of 30-40 750-mg capsules Estimated from HPLC 26 yr old who attempted suicide ADULTS: CASE HISTORIES: BLOOD PLASMA: DRUGS: ANALGESICS: DRUG ABUSE: DRUGS	Relethell, S. Pohl, A. Schwartz, H.S. 1981 Veterinary and Human Toxicology 23(6):821-823
7072 Blood, plasma	QC		1	a) Not applicable b) Not applicable c) Not applicable	a) 1,150 ug/l b) 810 ug/l c) 47 ug/l	a) At admission b) 17 hr later, at beginning of charcoal hemoperfusion c) After 19 hr hemoperfusion Dose unknown 43 yr old Reactions, hypotensive, recurrent myoclonus, vertical nystagmus, metabolic acidosis, low plasma bicarbonate, cerebral infarcts, intracerebral haematomas UNITED KINGDOM: ADOLESCENTS: ADULTS: CASE HISTORIES: BLOOD PLASMA: DRUG AGENTS: ANALGESICS: DRUG ABUSE: DRUGS: HYPERMOTIC: MUSCLE RELAXANTS: THEOPHYLLINES	Raper, S. Crosby, P. Vale, A. Helliwell, A. Widdop, B. 1982 Archives of Toxicology 49:303-310
7073 Blood, plasma	RP/LC		a) 15 b) 17 c) 16 d) 3 e) 3 f) 7 g) 26 h) 52	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 136 +or- 46 ug/ml b) 310 +or- 161 ug/ml c) 2310 +or- 910 ug/ml d) 2826 +or- 618 ug/ml e) 1126 +or- 367 ug/ml f) 3255 +or- 1846 ug/ml g) 38.2 +or- 3.5 ug/ml h) 27 +or- 2.1 ug/ml	a) Acetylcysteine therapy within 10 hr of overdose, 12-16 yr olds b) Same as a), 17-21 yr olds c) Acetylcysteine Therapy 10-20 hr postingestion, 12-16 yr olds d) Same as c), 17-21 yr olds e) Acetylcysteine therapy 24 hr postingestion, 17-21 yr olds f) Same as e), 17-21 yr olds g) Ingestion of anabolic dose, 12-16 yr olds h) As in g) 17-21 yr olds Known or suspected ingestion of 7.5 g or more. Drug overdose victims No relationship to subsequent Reye's syndrome could be demonstrated ACCESSIONS: CHILDREN: BLOOD PLASMA: ANALGESICS: DRUG ABUSE: DRUGS	Pausch, B.H. Peterson, P.J. 1978 Pediatrics 62(suppl.):898-903
7074 Blood, serum	Ingestion	RP/LC	1	Not applicable	21 ug/l	1 day after about 20 500 mg tablets 43 yr old alcoholic, The Netherlands Brownless, thrombocytopenia and diffuse abdominal pain CASE HISTORIES: CHILDREN: BLOOD PLASMA: ANALGESICS: ANALGESICS: DRUGS: NEWSTANDARDS: ADULTS	Uges, D.S.A. Steenhof, H. Christensen, P.K.J. 1981 Pharmaceutisch Weekblad Scientific Edition 3:205-211

(NEXT PAGE)

Acetanilide, 4'-hydroxy- (9 CI)
 Acetanilide, 4'-hydroxy- (9 CI)
 103-90-2
 CB-89-B-02
 MW 151.16, BP 169-170.5 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7075 Blood, serum	Ingestion		1	a) Not applicable b) Not applicable	a) 94 ug/ml b) 26 ug/ml	a) 24 hr after estimated 35 325-mg tablets b) 48 hr 3 yr old, wt 14.2 kg, with acetaminophen poisoning, NC Headache, nausea, vomiting, anorexia, followed by high levels of hepatic enzymes and bilirubin. Increased prothrombin time due to liver necrosis. NORTH CAROLINA: CHILDREN; BLOOD SERUM; ANALGESICS; ANTIPYRETICS; DRUGS	Arena, J.W., Souck, M.W., Jr., Sibrack, C.D., 1978 Pediatrics 61(1):69-72
7076 Crime	Ingestion	Colorimetry	1	294-370 ug/hr	331 ug/hr	10-22.5 hr after overdose of 30-40 750 mg capsules 26 yr old who attempted suicide ADULTS: CASE HISTORIES; BLOOD PLASMA; DRUGS; ANALGESICS; DRUG ABUSE; DRUGS	Melethill, S., Pottis, A., Schwartz, H.S., 1981 Veterinary and Human Toxicology 23(6):421-423

Acetone (8 CI)
 2-Propanone (9 CI)
 67-68-1
 C3-H8-O
 MW 58.08, BP -98.6 C, BP 56.30 C, VP 400 mm Hg at 39.5 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7077 Blood, serum	Ingestion	GC	1	Not applicable	0.18 g/l	Unknown dose of ethanol-isopropanol 45 yr old Cosa, respiratory distress BLOOD SPOT; DRUG ABUSE; DRUGS; ALCOHOLS	Vasilades, J., Pollock, J., Robinson, C.A., 1979 Clinical Chemistry 24(2):363-385

ATW 26.99154, WP 660 C, WP 2327 C, VP 1 00 Hg at 1540 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
TOXIC Blood, Plasma		AAS	a) 20	a) Not given	a) 1.59 $\pm$ 0.1-2.0	a) Listed care dialysis patients.	Zuckley, H.
			b) 20	b) Not given	b) 4.39 $\pm$ 0.3-5.69	g. Al dialysate 0.037 μ mol/l	Bertman, M.P.
						f) None dialysis patients. Daily	Greene, O.
						total Al(OH) ₃ dose 5.8 $\pm$ 0.7 g.	Langer, E.
						dialysate 0.37 $\pm$ 0.49 μ mol/l	1980
						b) significantly higher than a)	Proceedings, University of Missouri Annual Conference on Trace Substances in Environmental Health 19:299-303
						Clinically stable patients on intermittent dialysis > 6 months.	
						NEPHROLOGISTS; KIDNEY DISEASES;	
						CALCIUM; METALS; PHOSPHORUS; FLUORIDE;	
						BLOOD PLASMA; ALUMINUM	

(CONT. PAGE)

UNIT PAGE

Aluminum
7429-90-5

At 26.981%, BP 660 C, BP 2327 C, VP 1 mm Hg at 1540 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SOURCE OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7079 Blood, plasma	Ingestion	MS	6	a) 10-27 ug/l b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given l) Not given m) Not given n) Not given o) Not given p) Not given q) Not given	a) 19 ug/l b) 42 ug/l c) 117 ug/l d) 77 ug/l e) 36 ug/l f) 36 ug/l g) 36 ug/l h) 36 ug/l i) 39 ug/l j) 101 ug/l k) 125 ug/l l) 48 ug/l m) 94 ug/l n) 71 ug/l o) 43 ug/l p) 88 ug/l q) 82 ug/l	a) 71 yr old with osteoporosis, Al intake 3.28 mg/day, Al balance -0.7 mg/day, periods 1-5 b) Patient al, intake 5.22 mg/day, balance 0.1 mg/day, periods 6-10 c) Patient al, intake 5.22 mg/day, balance 0.1 mg/day, periods 11-15 d) Patient al, intake 5.09 mg/day, balance -0.2 mg/day, periods 15-19 e) 66 yr old, intake 4.83 mg/day, balance -28.7 mg/day, periods 1-8 f) Patient el, intake 19.10 mg/day (diet plus 90 Al/day asphogel), Al balance 24.0 mg/day, periods 1-5 g) Patient el, intake 19.10 mg/day (diet plus 90 Al/day asphogel), Al balance 16.31 mg/day, diet plus 20 Al/day Alantol, balance 250 mg/day, periods 10-18 h) Patient el, intake 3.34 mg/day, balance -8.8 mg/day, periods 15-19 i) 54 yr old with osteoporosis and cerebellar degeneration, intake 5.15 mg/day, Al balance -3.5 mg/day, periods 1-5 j) Patient il, intake 10.81 mg/day (diet plus 90 Al/day asphogel), balance 42 mg/day, periods 6-10 k) Patient il, intake 5.28 mg/day, balance -6.0 mg/day, periods 11-15 l) 50 yr old, history of osteoporosis and alcoholism, intake 3.67 mg/day, balance -3.9 mg/day, periods 1-5 m) Patient il, intake 10.80 mg/day (diet plus 10 Al/day asphogel), balance -10.6 mg/day, periods 11-19 n) Patient il, intake 3.34 mg/day, balance -10.6 mg/day, periods 11-19 o) 58 yr old, history of osteoporosis, intake 3.57 mg/day, balance -8.2 mg/day, periods 1-7 p) Patient ol, intake 28.99 mg/day (diet plus asphogel and Alantol), balance 276 mg/day, periods 8-16 q) Patient el, intake 17.18 mg/day (diet plus asphogel and Alantol), balance 318 mg/day, periods 17-21 Each period = 6 days Data seen of all 6 day periods on constant intake Al in carcase (used as stool sequester) included in intake Alantol, Alantol, and asphogel, commercial antacids containing 12.8-21.2 g Al/l Volunteers admitted for evaluation of various medical problems, 11	Borsky, J.E. Dietz, A.A. Spencer, M. Gale, D. Medical Chemistry 21(10):1739-1783
7080 Cartilage	Ingestion	Polarography	a) 1 b) 4	a) Not given b) Not given	a) 22 ug/g b) 2 ug - 2.0 ug/g Met wt S.E.	a) 68 yr old on 8-10 g daily dose Al-hydroxide for 5 yr b) Controls Patient on hemodialysis for chronic renal failure after transplant resection. Controls had not received Al compounds ADULTS: BONE DISEASES; KIDNEY DISEASES; CHRONIC RENAL FAILURE; HEMODIALYSIS; ALUMINUM	Wetter, P. Barnes, D. Kutler, M.F. Kutler, M.F. Pace, G. 1981 Lancet i(8228):1056-1057

(SEE PAGE)

Aluminum
7429-50-5
Atw 26.98198, BP 660 C, BP 2327 C, VP 1 wa Bq at 1540 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7081 Synovial fluid	Ingestion	Pulse-polarograph	a) 6 b) 1	a) Not given b) Not given	a) 10.8 μ g - 5.6 μ g/ Δ b) 0.7 μ g/ Δ S.E.	a) Controls b) 88 yr old on 4-10 g daily dose Al-hydroxide for 5 yr Patient on hemodialysis for chronic renal failure after transplant rejection. Controls had not received Al compounds. ADULTS: BONE DISEASES; KIDNEY DISEASES; CARTILAGE; SYNOVIAL MEMBRANES; RENODIALYSIS; ALUMINUM	Metter, P. Bursel, D. Hutlin, M.P. Kessler, M.P. Paare, G. 1981 Lancet 1 (8228): 1054-1057
7082 Synovial tissue	Ingestion	Polarography	5	a) Not given b) Not given	a) 3.7 μ g/g b) 2.2 μ g/g c) 0.8 μ g - 0.2 μ g/g Not wt S.E.	a) 68 yr old on 4-10 g daily dose Al-hydroxide for 5 yr. Tissue sample from anterior capsule of femoral head b) Patient a). Tissue sample from posterior capsule of femoral head c) 4 Controls Patient on hemodialysis for chronic renal failure after transplant rejection. Controls had not received Al compounds ADULTS: BONE DISEASES; KIDNEY DISEASES; CARTILAGE; SYNOVIAL MEMBRANES; RENODIALYSIS; ALUMINUM	Metter, P. Bursel, D. Hutlin, M.P. Kessler, M.P. Paare, G. 1981 Lancet 1 (8228): 1054-1057

(NEXT PAGE)

Blueless
7825-50-5
A1
ACW 26.90159, HP 66.0 C, BP 2327 C, WP 1 mm Hg at 1540 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7083 Oxime	Ingestion	AAS	6	a) 0.051-0.088 mg/day b) 0.021-0.040 mg/day c) 0.184-0.255 mg/day d) 0.053-0.111 mg/day e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given l) Not given m) Not given n) Not given o) Not given p) Not given q) Not given r) Not given s) Not given	a) 0.066 mg/day b) 0.033 mg/day c) 0.221 mg/day d) 0.080 mg/day e) 0.098 mg/day f) 0.122 mg/day g) 0.238 mg/day h) 0.229 mg/day i) 0.200 mg/day j) 0.200 mg/day k) 0.051 mg/day l) 0.173 mg/day m) 0.053 mg/day n) 0.048 mg/day o) 0.139 mg/day p) 0.076 mg/day q) 0.076 mg/day r) 0.223 mg/day s) 0.211 mg/day	a) 71 yr old with osteoporosis, intake 3.28 mg/day, al balance -0.7 mg/day, periods 1-5 b) Patient al, intake 5.22 mg/day, balance 0.5 mg/day, periods 6-10 c) Patient al, intake 5.22 mg/day, balance 0.5 mg/day, periods 11-14 d) Diet plus 90 al/day Naalox, balance 255 mg/day, periods 11-14 e) Patient al, intake 5.03 mg/day, balance -0.2 mg/day, periods 15-18 f) 69 yr old, intake 4.93 mg/day, balance -24.7 mg/day, periods 1-4 g) Patient al, intake 1910 mg/day (diet plus 90 al/day Aphogel), balance 247 mg/day, periods 5-7 h) 52 yr old with osteoporosis, intake 3.8 mg/day, diet plus 90 al/day Naalox, balance 258 mg/day, periods 1-5 i) Patient al, intake 1250 mg/day (diet plus 90 al/day Naalox), balance 92 mg/day, periods 6-9 j) Patient al, intake 1637 mg/day (diet plus 120 mg/day Naalox), balance 240 mg/day, periods 10-14 k) Patient al, intake 3.38 mg/day, balance -8.8 mg/day, periods 15-19 l) 58 yr old with osteoporosis and alcoholism, intake 3.67 mg/day, balance -1.5 mg/day, periods 1-5 m) Patient al, intake 1081 mg/day (diet plus 90 al/day Naalox), balance 89 mg/day, periods 6-10 n) Patient al, intake 5.28 mg/day, balance -6.0 mg/day, periods 11-15 o) 50 yr old, history of osteoporosis and alcoholism, intake 3.67 mg/day, balance -3.9 mg/day, periods 1-5 p) Patient al, intake 3.67 mg/day, balance 23 mg/day, periods 6-10 q) Patient al, intake 3.54 mg/day, balance -10.6 mg/day, periods 11-14 r) 58 yr old, history femoral carcinoma, intake 3.57 mg/day, balance -5.2 mg/day, periods 1-7 s) Patient al, intake 2999 mg/day (diet plus Aphogel and Naalox), balance 276 mg/day, periods 8-16 t) Patient al, intake 2719 mg/day (diet plus Aphogel and Naalox), balance 318 mg/day, periods 17-21 u) Patient al, intake 2719 mg/day, each period 6 days v) Data mean of all 6 day periods on constant intake w) Al in carmine (used as stool marker) included in intake x) Naalox, Wyntate, and Aphogel, commercial antacids containing 12.0-21.2 g Al/l y) Volunteers, admitted for evaluation of various medical problems, 11 z) ILLINOIS: ADULTS: BONE DISEASES: DISEASES: BLOOD PLASMA: URINE: DRUG THERAPY: DRUGS: ANTACIDS: ALUMINUM: BIOCCUPULATION: DEITS	Gorsky, J.E. Dietz, A.H. Spencer, W. Oala, D. 1974 Statistical Chemistry 25(10):1733-1743

Anthranilic acid, 8-2,3-epoxy- (8 CI)
 Benzoic acid, 3-((2,3-dichlorophenyl) amino)- (9 CI)
 61-68-7
 C15-815-E-02
 MW 281.28, BP 230-231 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7086 Blood, plasma	Injection	HPLC	41 a) 13 b) 12 c) 16 d) 8 e) 11 f) 18	a) < 1 ug/ml b) 1-10 ug/ml c) 10-50 ug/ml d) 30-50 ug/ml e) 8-150 ug/ml f) 11-100 ug/ml	a) Not given b) Not given c) Not given d) Not given e) 73 ug f) 30 ug-24 ug	a) Below detection limits b) Therapeutic range c) No symptoms d) muscle twitching e) Convulsions f) No convulsions S4 levels reported to have taken between 1.5-5.0 hr before initial measurements Partes estimated from graph Overdose patients, 1968-1980, Scotland Diarhea, vomiting, muscle twitching, progressing in some patients, to grand mal convulsions UNITED KINGDOM; BLOOD PLASMA; ANALYTICS: 2802 ABUSE; DRUG INTERACTION; DRUGS	Salali-mood, W. Proudford, A.T. Crichtley, J.A., I.R. Preston, L.P. 1981 Lancet 1192 (8): 134-136

Anthranilic acid, 4-chloro-8-(furfuryl-5-sulfamoyl)- (8 CI)
 Benzoic acid, 5-(aminosulfonyl)-4-chloro-2-((2-furfurylmethyl) amino)- (9 CI)
 54-31-9
 C17-H11-Cl-N2-O5-S
 MW 336.79, BP 206 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7085 Blood, urine	Injection	HPLC	8	a) 9-0.15 ug/ml b) 10-0.3 ug/ml	a) Not given b) Not given	a) 5 and 100 min after 40 ug IV b) 5 and 100 min after 40 ug IV Inhibitory effect on before and 100 ug 30-60 min before furosemide Range of means, estimated from graph Healthy 22-27 yr olds, 50.0-86.2 kg BLOOD SERUM; ANALYTICS: DIURETICS; DRUG INTERACTION; DRUGS	Chenavas, P. Sewell, P. 1980, G.C. Journal of Pharmacology and Experimental Therapeutics 215(1): 77-81
7086 Urine	Injection	Colorimetry	19	a) Not given b) Not given c) Not given d) Not given	a) 28.08 ug-2.60 ug b) 24.00 ug-0.74 ug c) 23.64 ug-2.03 ug d) 26.94 ug-2.30 ug	a) Solitary congestive heart failure (9 subjects) b) Advanced congestive heart failure (10 subjects) c) As in b) (4 subjects) d) As in b), with 0.2 mg/kg Hydralazine Urinary excretion after 40 ug Clinical effect correlated with serum level and augmented by hydralazine 29-64 yr old cardiac patients CARDIOVASCULAR DISEASES; DRUGS; DIURETICS; DRUG THERAPY; DRUGS; JAPAN	Wakura, A. Tasaka, M. Yasuda, M. Aizawa, T. Miyazaki, F. Arita, T. 1981 Clinical Pharmacology and Therapeutics 30(2): 177-182

(CONT. PAGE)

(CONTINUED)

Anthranilic acid, 4-chloro-8-furfuryl-5-sulfamoyl- (8 CI)
 Benzoic acid, 5-(salicylsalicyl-4-chloro-2-((2-furanylmethyl)sulfonyl)- (9 CI)
 54-31-9
 C12-811-C1-82-05-5
 MW 330.77, BP 206 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7087 Urine	Injection	HPLC	8	a) Not given b) Not given c) Not given d) Not given	a) 9.3 $\pm$ 0.4 b) 9.4 $\pm$ 0.4 c) 15.7 $\pm$ 2.2 d) 18.8 $\pm$ 1.7	a) 24 hr cumulative excretion after 20 mg b) Same as a), plus indomethacin (100 mg about 8 hr before and 100 mg 30-60 min before furosemide) c) 24 hr cumulative excretion after 40 mg d) Same as c) plus indomethacin as in b) e) No significant differences between a) and b) and c) and d) Healthy 22-27 yr olds, 50.0-86.2 kg BLOOD SERUM: ANALGESICS; DIURETICS; DRUG INTERACTION: DRUGS	Chenaravala, P., Selwell, E., Waters, O.C., 1989 Journal of Pharmacology and Therapeutics 215(1):77-81

Antipyrine (8 CI)
 3H-Pyrazol-3-one, 1,2-dihydro-1,5-dimethyl-2-phenyl- (9 CI)
 C8H9N3O
 MW 151.16, BP 111-113 C
 MW 188.22, BP 111-113 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7088 Blood, plasma			3	a) 60-30 ug/2 ml b) 50-12 ug/2 ml c) 42-11 ug/2 ml d) 65-35 ug/2 ml e) 50-22 ug/2 ml	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable	a) Pb poisoned, exposure unknown, blood Pb 40 ug/100 ml b) After chelation therapy, blood Pb 20 ug/100 ml c) Sibling of a), not Pb poisoned d) Pb poisoned, exposure unknown, blood Pb 72 ug/100 ml e) After chelation therapy, 52 ug Pb/100 ml Estimated from graph 3 and 16 hr after unspecified dose 2.0-3.5 yr olds CHILDREN: LEAD POISONING; METAL POISONING; BLOOD; BLOOD PLASMA; DRUGS; LEAD; METALS; METABOLISM	Alvares, A.P., Kaplan, S., Sassa, S., Kappas, A., 1975 Clinical Pharmacology and Therapeutics 17(2):119-123
7089 Blood, plasma	Injection	Photometry	a) 1 b) 1	a) 50-15 ug/ml b) 70-6 ug/ml	a) Not applicable b) Not applicable	a) Oral contraceptive user b) Initial measurement and 25 hr after 1.0-1.2 g dose Antipyrine clearance impaired by oral contraceptive steroids BLOOD PLASMA; SEDATIVES; ANTIPYRINE; DRUG INTERACTION; DRUG THERAPY; DRUGS	Baron, D.B., Greenblatt, D.J., 1981 Clinical Pharmacology and Therapeutics 29(1):106-110

Antipyrine, N-(dimethylamino)- (8 CI)
 3H-pyrazol-3-one, N-(dimethylamino)-1,2-dihydro-1,5-dimethyl-2-phenyl- (9 CI)
 28-15-1
 C13-R17-W3-0
 MW 231.29, BP 107-109 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7090 Breath	Injection	Radioactivity	a) 45 b) 19 c) 22 d) 46 e) 9	a) 5-10% b) 6.1-17% c) 0.8-4.5% d) 0.8-7% e) 3.5-8.2%	a) 6.2% b) 9.1% c) 2.5% d) 3.5% e) 6%	a) Controls b) Patients on anticoagulants c) Patients with hepatocellular disease d) Patients with hepatic neoplasms e) Patients with cholestasis 2 hr output of C-14 after 1 uCi Significant increase in b) and decrease in c) and d) Fasted from graph 43-47 yr old hospital patients Confusion or dysarthria occurred in case control and 8 patients with hepatocellular disease EFFECTS: ANESTHETICS: LIVER DISEASES; ANESTHETICS: ANTIEMETICS; DRUGS: DRUG INTERACTIONS; DRUGS: DRUG UTILIZATION; COMPARATIVE EVALUATIONS	Reger, G.W. Vogel, S.S. Linton, R.A. Harvey, R.A. Wilkinson, G.S. Scheiner, S. 1977 Journal of Laboratory and Clinical Medicine 90(3):440-456

Noncrescine
 9015
 EXACT COMPOSITION UNKNOWN OR UNDETERMINED

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7091 Blood, Plasma	Injection	Radioactivity	a) 1 b) 5 c) 1 d) 4 e) 1	a) Not applicable b) 16-28.0 IU/ml c) Not applicable d) 0.20-1.40 IU/ml e) Not applicable	a) 8.3 IU/ml (83%) b) 22.7 IU/ml (76%) c) 37.8 IU/ml (63%) d) 0.88 IU/ml (15%) e) 0.04 IU/ml (<1%)	a) After 16,500 IU/mg s IV b) After 50,000 IU/mg s IV c) After 100,000 IU/mg s IV d) After 10,000 IU/mg s IV (peak level) e) After 20,000 IU/mg s IV (peak level) 1 of dose Patients with leukemia and metastatic cancer, wt 50-127 kg ANTICANCER AGENTS: ADULTS: CARCINOMAS; LEUKEMIA; NEOPLASMS; OSTEOSARCOMAS; BLOOD PLASMA; URINE; DRUGS; COMPARATIVE EVALUATIONS; PRETREAT	Ho, D.H.W. Yap, M.Y. Jong, M. Benjamin, S.S. Friedrich, E.J. Stuenkel, G.F. Soley, G.P. 1981 Journal of Clinical Pharmacology 21:72-78
7092 Urine	Injection	Radioactivity	a) 7 b) 5	a) Not given b) None detected	a) <1% b) None detected	a) Excreted within 24 h after 16,500-100,000 IU/mg s IV b) Excreted within 3 h after 10,000-20,000 IU/mg s IV 1 of dose Patients with leukemia and metastatic cancer, wt 50-127 kg ANTICANCER AGENTS: ADULTS: CARCINOMAS; LEUKEMIA; NEOPLASMS; OSTEOSARCOMAS; BLOOD PLASMA; URINE; DRUGS; COMPARATIVE EVALUATIONS; PRETREAT	Ho, D.H.W. Yap, M.Y. Jong, M. Benjamin, S.S. Friedrich, E.J. Stuenkel, G.F. Soley, G.P. 1981 Journal of Clinical Pharmacology 21:72-78

Barbituric acid, 5-(1-cyclohexen-1-yl)-1,5-dimethyl- (8 CI) (73B)
 24-29 (16, 36, 58) -pyrimidinetrione, 5-(1-cyclohexen-1-yl)-1,5-dimethyl- (9 CI)
 C12-116-42-03
 MW 236.26, MP 145-147 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7093 Blood, Plasma	Ingestion	GC	6	4.2-0.5 ug/ml	Not given	5 and 24 hr after 500 mg on day 8 of a 5 day study during which time subjects received 100 mg of diazepam. Initial measurement 0.03 ug/ml at 30 min. When barbiturate was given before or after CBD treatment, peak levels were as much as 50% lower. Range of means, estimated from graph Healthy 21-28 yr olds Increased fatigue, and tremor. Impaired eye tracking performance, and altered electroencephalogram. Effects not altered by CBD. BLOOD PLASMA: DRUG INTERACTION: DRUGS: HYPNOTICS: PSYCHOTROPIC DRUGS: SEDATIVES: COMPARATIVE EVALUATIONS: METABOLISM	Boquer, M., Gier, J., Bialka, J., 1978b Forensic Science International 12:73-82

Barbituric acid, 5-(1-cyclohexen-1-yl)-5-ethyl- (8 CI)
 24-29 (16, 36, 58) -pyrimidinetrione, 5-(1-cyclohexen-1-yl)-5-ethyl- (9 CI)
 C12-116-42-03
 MW 236.26, MP 171-173 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7094 Blood		GC UV	1	a) Not applicable b) Not applicable	a) 1.4 mg/100g b) 1.4 mg/100g	a) Solvent extraction method b) K10-2 resin bag extraction method Fatal overdose case Poland POLAND: BLOOD; BRAIN; LIVER: DRUG ADMEP; DRUGS; MEASUREMENT METHODS	Boquer, M., Gier, J., Bialka, J., 1978b Forensic Science International 12:73-82
7095 Brain		GC UV	1	a) Not applicable b) Not applicable	a) 0.5 mg/100g b) 0.6 mg/100g	a) Solvent extraction method b) K10-2 resin bag extraction method Fatal overdose case Poland POLAND: BLOOD; BRAIN; LIVER: DRUG ADMEP; DRUGS; MEASUREMENT METHODS	Boquer, M., Gier, J., Bialka, J., 1978b Forensic Science International 12:73-82
7096 Liver		GC UV	1	a) Not applicable b) Not applicable	a) 1.3 mg/100g b) 0.9 mg/100g	a) Solvent extraction method b) K10-2 resin bag extraction method Fatal overdose case Poland POLAND: BLOOD; BRAIN; LIVER: DRUG ADMEP; DRUGS; MEASUREMENT METHODS	Boquer, M., Gier, J., Bialka, J., 1978b Forensic Science International 12:73-82

Barbituric acid, 5-allyl-5-(1-methylbutyl)- (6 CI)
 2,4,6-(1H,3H,5H)-pyrimidinetrione, 5-(1-methylbutyl)-5-(2-propenyl)- (9 CI)
 76-73-3
 C12H16N2O3
 8N 334

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	DEATH	GENERAL INFORMATION	REFERENCE
7097 Blood		GC TLC UV GC/MS Enzymatic	2	3.6-23.5 ug/l	Not given	Dose probably sufficient to contribute to mass spectrum results from a laboratory receiving identical samples for toxic screen. Overdose drugs identified in 50%-70% of cases. Laboratories agreed on 6 of 23 drugs reported present in serum of 20 patients were variable and appeared inprecise. Probable drug overdose patients, Boston, MA. MASSACHUSETTS: BLOOD; ANALGESICS; ANTICONVULSANTS; ANTIDEPRESSIVE AGENTS; ANTIEPILEPTICS; DRUG ABUSE; DRUGS; HYPNOTICS; NARCOTICS; SEDATIVES; TRANQUILIZERS; COMPARATIVE EVALUATIONS; ALCOHOLS; MEASUREMENT METHODS.	Ingelfinger, J.A. Shikama, G. Shikama, G. Costello, C.E. Goldman, P. 1981 Clinical Pharmacology and Therapeutics 29 (5):570-575
7098 Blood	Ingestion	GC	15	a) 1.5-6.6 ug/ml b) 1.5-8.1 ug/ml c) 1.8-2.6 ug/ml d) 1.3-5.3 ug/ml	a) 3.1 to 0.7 ug/ml b) 2.4 to 0.4 ug/ml c) 3.5 to 0.4 ug/ml d) 4.8 to 0.6 ug/ml	a) 6 controls, toxic level b) 6 controls, 7 hr after last dose c) 9 patients, toxic level d) 9 patients, 7 hr after last dose Mean dose 572 to 65 mg total (50% Seobarbital and 50% amobarbital by weight) in 100 mg capsules and 1063 mg total in 100 mg capsules and 1063 mg total in 100 mg capsules for patients. Dose schedule 100-200 mg total barbiturate/hr until toxic level reached. 17-15 yr old secobarbital/amobarbital drug abusers and controls Drowsiness, slurred speech, ataxia, and combing of hair, vertical and lateral nystagmus. BLOOD: DRUG .MPS.: DRUG INTERACTION; DRUGS: HYPNOTICS; PSYCHOTROPIC DRUGS; SEDATIVES.	Paulkner, T.P. McGinty, J.W. Mayden, J.W. Olsen, D.A. Constock, E.J. 1979 Journal of Clinical Pharmacology 19 (10):605-616
7099 Blood		UV	5	0.11-0.7 mg/100 ml	Not given	Drug induced fatalities, ethanol (5 cases), 0.12 g/100 ml and secobarbital (1 case, 0.20 mg/100 ml) also found. Autopsies, 1975-76, Los Angeles County, CA. CALIFORNIA: AUTOPSIES; CASE HISTORIES; BLOOD; DRUG ABUSE; DRUGS; FORENSIC MEDICINE; ALCOHOLS.	Wakaura, G.B. Koyachi, T.T. Koyachi, T.T. 1976 Journal of Analytical Toxicology 3:137-142
7100 Urine	Ingestion	HPLC	1	Not given	>500 ug/l	1-72 hr after 100 mg Volunteer URINE: DRUGS; HYPNOTICS; NARCOTICS; MEASUREMENT METHODS.	Marquet-Gomez, N. Gomez, J.E. Clemens, B. McGhee, B. Tewksbury, E. Avila, J. E. Grunberg, E. 1975 Clinical Chemistry 21 (10):1379-1382

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	REAS	GENERAL INFORMATION	REFERENCE
7101 Blood		GC TLC UV GC/MS Enzymatic	a) 1 b) 2	a) 0-8.0 mg/L b) 0-13.0 mg/L	a) Not given b) Not given	a) Dose probably sufficient to contribute to signs and symptoms b) Doses probably less than toxic amounts from a laboratory receiving identical samples to toxicologic Overdose Of cases identified as 50%-70% laboratories agreed on 4 of 23 drugs reported present in serum of 20 patients Levels were variable and appeared imprecise. Probable drug overdose patients. Boston, MA	Ingelfinger, J.A. Tesson, G. Saier, D. Costello, C.E. Vodman, P. Clinical Pharmacology and Therapeutics 29 (5):576-575
						ASSAULTS: BLOOD; ANALGESICS; AN - CONVULSANTS; ANTIDEPRESSIVE AGENTS; ANTIPYRETICS; DRUG ABUSE; DRUGS; HYPNOTICS; NARCOTICS; SEDATIVES; PARALYZERS; COMPARATIVE STUDIES; ALCOHOLS; NSA SUPPLEMENT METHODS	

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	DEATH	GENERAL INFORMATION	REFERENCE
7102 Blood	Ingestion	Colorimetry TLC	1	Not applicable	5.3 mg/100 ml	Unknown dose 75 yr old suicide victim AUTOPSIES: SUICIDE; BLOOD; KIDNEYS; LIVER; URINE; DRUG ABUSE; DRUGS; PORENSIC MEDICINE	Poklis, A. Haeuli, A.Z. 1975 Archives of Toxicology 36: 77-80
7103 Kidney	Ingestion	Colorimetry TLC	1	Not applicable	8.5 mg/100 mg	Unknown dose 75 yr old suicide victim AUTOPSIES: SUICIDE; BLOOD; KIDNEYS; LIVER; URINE; DRUG ABUSE; DRUGS; PORENSIC MEDICINE	Poklis, A. Haeuli, A.Z. 1975 Archives of Toxicology 36: 77-80
7104 Liver	Ingestion	Colorimetry TLC	1	Not applicable	16.4 mg/100 mg	Unknown dose 75 yr old suicide victim AUTOPSIES: SUICIDE; BLOOD; KIDNEYS; LIVER; URINE; DRUG ABUSE; DRUGS; PORENSIC MEDICINE	Poklis, A. Haeuli, A.Z. 1975 Archives of Toxicology 36: 77-80
7105 Urine	Ingestion	Colorimetry TLC	1	Not applicable	8.0 mg/100 ml	Unknown dose 75 yr old suicide victim AUTOPSIES: SUICIDE; BLOOD; KIDNEYS; LIVER; URINE; DRUG ABUSE; DRUGS; PORENSIC MEDICINE	Poklis, A. Haeuli, A.Z. 1975 Archives of Toxicology 36: 77-80

Barbituric acid, 5-ethyl-5-(1-ethylbutyl)- (8 CI)
 76-10-1 (P, 36, 38) - pyridine, 5-ethyl-5-(1-ethylbutyl)- (9 CI)
 C11-818-82-03
 MW 226.31

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	REAS	GENERAL INFORMATION	REFERENCE
7106 Bile	Injection Ingestion	GC	2	114-2480 ug/ml	Not applicable	Suicide victim, dose unknown 38 yr old Caucasian and 32 yr old East Indian, CA Congestion and edema of lungs CALIFORNIA: ADULTS: SUICIDE: BILE; BLOOD: BILE; BILE; SUICIDE: BILE; LIVER: BILE; BILE; SUICIDE: BILE; LIVER: BILE; BILE; SUICIDE: BILE; HYPOPHYSIS: SUICIDE: BILE; HYPOPHYSIS: SUICIDE: BILE;	Shaw, R.F. 1981 Clinical Toxicology 18(8):965-968
7107 Blood	Ingestion	Colorimetry TLC	1	Not applicable	15 ug/100 ml	Estimated absorbed dose 1.5 g Suicide victim ADULTS: SUICIDE: BLOOD: KIDNEYS; LIVER: DRUG ABUSE; DRUGS	Potter, A. Hess, A.Z. 1975 Archives of Toxicology 38:77-80
7108 Blood	Injection Ingestion	GC	2	113-173 ug/ml	Not applicable	Suicide victim, dose unknown 38 yr old Caucasian and 32 yr old East Indian, CA Congestion and edema of lungs CALIFORNIA: ADULTS: SUICIDE: BILE; BLOOD: BILE; BILE; SUICIDE: BILE; LIVER: BILE; BILE; SUICIDE: BILE; LIVER: BILE; BILE; SUICIDE: BILE; HYPOPHYSIS: SUICIDE: BILE; HYPOPHYSIS: SUICIDE: BILE;	Shaw, R.F. 1981 Clinical Toxicology 18(8):965-968
7109 Blood		UV	6	0.4-0.8 ug/100 ml	Not given	Drug induced fatalities. ethanol (6 cases, 0.02-0.35 g/100 ml) and propylphenone (1 case, 0.12 ug/100 ml) also found. Autopsies, 1975-76, Los Angeles County, CA CALIFORNIA: ADULTS: CASE HISTOPATH: BLOOD: DRUG ABUSE; DRUGS; FORENSIC MEDICINE: ALCOHOLS	Kakawara, G.P. Hoguchi, T.T. Strickland, E.C. 1979 Journal of Analytical Toxicology 3:137-142
7110 Blood, plasma	Ingestion	GC	6	a) Not given b) Not given c) Not given d) 2.60 ug/ml e) 2.60 ug/ml f) 2.60 ug/ml g) 2.60 ug/ml h) 2.60 ug/ml i) 2.60 ug/ml j) 2.60 ug/ml k) 2.60 ug/ml l) 2.60 ug/ml m) 2.60 ug/ml n) 2.60 ug/ml o) 2.60 ug/ml p) 2.60 ug/ml q) 2.60 ug/ml r) 2.60 ug/ml s) 2.60 ug/ml t) 2.60 ug/ml u) 2.60 ug/ml v) 2.60 ug/ml w) 2.60 ug/ml x) 2.60 ug/ml y) 2.60 ug/ml z) 2.60 ug/ml	a) Before b) Before c) Before d) Before e) Before f) Before g) Before h) Before i) Before j) Before k) Before l) Before m) Before n) Before o) Before p) Before q) Before r) Before s) Before t) Before u) Before v) Before w) Before x) Before y) Before z) Before	a) Before b) Before c) Before d) Before e) Before f) Before g) Before h) Before i) Before j) Before k) Before l) Before m) Before n) Before o) Before p) Before q) Before r) Before s) Before t) Before u) Before v) Before w) Before x) Before y) Before z) Before	Renoult, W.L. Jones, R.T. 1977 Clinical Pharmacology and Therapeutics 22(1):255-265
7111 Blood, plasma	Ingestion	HPLC	7	1.2-2.1 ug/ml	Not given	One after 100 mg on day 1, 8, 15 during 14 day study with one dose per day Large of acute Healthy 21-60 yr olds with sleep difficulties Slightly reduced sleep latency, but no effect on sleep duration or number of awakenings. No effect on psychomotor performance. BLOOD PLASMA: DRUG THERAPY; DRUGS; HYPOPHYSIS	Lindholm, M. Freil, C.W. Freil, A. 1982 Journal of Clinical Pharmacology 22:18-19

(last page)

perchloric acid, 5-ethyl-(1-methylbutyl)- (9 CI)
 2,4,6-tris-(3,5-dimethyl-4-nitrophenyl)-5-ethyl-5-(1-methylbutyl)- (9 CI)
 76-78-4
 C11-830-82-03
 MW 226.31

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	NEED	GENERAL INFORMATION	REFERENCE
7112 Brain	Injection Ingestion	GC	2	100-112 ug/g	Not applicable	Suicide victims, dose unknown 36 yr old Caucasian and 32 yr old East Indian, CA Congestion and edema of lungs CALIFORNIA: ADULTS; SUICIDE; BILE; BLOOD; BRAIN; HEART; KIDNEYS; LIVER; LUNGS; URINE; DRUG ABUSE; DRUGS; HYPNOTICS; SEDATIVES	Shaw, R.P. 1981 Clinical Toxicology 18(8):965-968
7113 Heart	Ingestion	GC	1	Not applicable	160 ug/g	Suicide victim, dose unknown 32 yr old East Indian, CA Congestion and edema of lungs CALIFORNIA: ADULTS; SUICIDE; BILE; BLOOD; BRAIN; HEART; KIDNEYS; LIVER; LUNGS; URINE; DRUG ABUSE; DRUGS; HYPNOTICS; SEDATIVES	Shaw, R.P. 1981 Clinical Toxicology 18(8):965-968
7114 Kidney	Ingestion	Colorimetry TLC	1	Not applicable	6.3 ug/100 ug	Estimated absorbed dose 1.5 g Suicide victim AUTOPSY; SUICIDE; BLOOD; KIDNEYS; LIVER; DRUG ABUSE; DRUGS	Poklis, A. Hawell, A.Z. 1975 Archives of Toxicology 38:77-80
7115 Kidney	Injection Ingestion	GC	2	100-1057 ug/g	Not applicable	Suicide victims, dose unknown 36 yr old Caucasian and 32 yr old East Indian, CA Congestion and edema of lungs CALIFORNIA: ADULTS; SUICIDE; BILE; BLOOD; BRAIN; HEART; KIDNEYS; LIVER; LUNGS; URINE; DRUG ABUSE; DRUGS; HYPNOTICS; SEDATIVES	Shaw, R.P. 1981 Clinical Toxicology 18(8):965-968
7116 Liver	Ingestion	Colorimetry TLC	1	Not applicable	32 ug/100 ug	Estimated absorbed dose 1.5 g Suicide victim AUTOPSY; SUICIDE; BLOOD; KIDNEYS; LIVER; DRUG ABUSE; DRUGS	Poklis, A. Hawell, A.Z. 1975 Archives of Toxicology 38:77-80
7117 Liver	Injection Ingestion	GC	2	458-1540 ug/g	Not applicable	Suicide victims, dose unknown 36 yr old Caucasian and 32 yr old East Indian, CA Congestion and edema of lungs CALIFORNIA: ADULTS; SUICIDE; BILE; BLOOD; BRAIN; HEART; KIDNEYS; LIVER; LUNGS; URINE; DRUG ABUSE; DRUGS; HYPNOTICS; SEDATIVES	Shaw, R.P. 1981 Clinical Toxicology 18(8):965-968

(NEXT PAGE)

(CONTINUED)

Barbituric acid, 5-ethyl-5-(1-methylbutyl)- (8 CI)
 2,4,6-trimethyl-5-ethyl-5-(1-methylbutyl)-pyrimidin-2(1H)-one, 5-ethyl-5-(1-methylbutyl)- (9 CI)
 76-78-8
 C11-R10-R2-03
 MW 226.31

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7118 lung	Injection Ingestion	GC	2	148-217 ug/g	Not applicable	Suicide victims, dose unknown 38 yr old Caucasian and 32 yr old East Indian, CA Congestion and edema of lungs CALICORNIA: ADULTS; SMOKERS; NILES; BLOOD; HAIR; TOWERS; LIVER; LUNGS; DRUGS; DRUG ABUSE; DRUGS; PSYCHOTICS; SEDATIVES	Shaw, P.P. 1981 Clinical Toxicology 18(8):965-968
7119 urine	Ingestion	Colorimetry		2-17 ug/ml	Not given	1 and 8 hr after 400 mg. Final measurement 10 ug/ml at 12 hr. Estimated from graph. Data corrected to urine relative density of 1.024. URINE; DRUGS; HYPONOTICS; SEDATIVES; RESPIRATORY METHODS	Pehr, F. 1975 Clinical Chemistry 21(11):1609-1611
7120 urine	Injection Ingestion	GC	2	8.3-845 ug/ml	Not applicable	Suicide victims, dose unknown 38 yr old Caucasian and 32 yr old East Indian, CA Congestion and edema of lungs CALICORNIA: ADULTS; SMOKERS; NILES; BLOOD; HAIR; TOWERS; LIVER; LUNGS; DRUGS; DRUG ABUSE; DRUGS; PSYCHOTICS; SEDATIVES	Shaw, P.P. 1981 Clinical Toxicology 18(8):965-968

Barbituric acid, 5-ethyl-5-isopentyl- (8 CI)
 2,4,6-trimethyl-5-ethyl-5-(3-methylbutyl)-pyrimidin-2(1H)-one, 5-ethyl-5-(3-methylbutyl)- (9 CI)
 57-83-2
 C11-R10-R2-03
 MW 226.27, MP 156-158 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7121 Blood	Ingestion	GC	15	a) 2.3-7.6 ug/ml b) 2.0-5.2 ug/ml c) 2.7-9.7 ug/ml d) 2.4-8.7 ug/ml	a) 3.6 $\pm$ 0.8 ug/ml b) 3.0 $\pm$ 0.5 ug/ml c) 3.0 $\pm$ 0.9 ug/ml d) 3.8 $\pm$ 1.0 ug/ml	a) 8 controls, toxic level b) 8 controls, 7 hr after last dose c) 9 patients, toxic level d) 9 patients, 7 hr after last dose Mean dose 612 mg. Toxic level 1600 mg semibarbital and 500 mg semibarbital by weight/150 lb for controls, and 1063 mg for 164 mg Tolal/150 lb for patients. Dose schedule 100-200 mg total barbiturate/hr until toxic level reached 17-35 yr old semibarbital/semibarbital drug abusers and controls Drowsiness, slurred speech, ataxia, and combination of vertical and lateral nystagmus BLOOD; DRUG ABUSE; DRUG INTERACTION; DRUGS; HYPONOTICS; PSYCHOTROPIC DRUGS; SEDATIVES	Faulkner, T.P. McIntyre, J.M. Hayden, J.R. Olson, D.K. Cassidy, S.G. Cassidy, S.G. Journal of Clinical Pharmacology 19(10):605-616

(NEXT PAGE)

Barbituric acid, 5-ethyl-5-isopentyl- (R CI)
 2,4,6 (1H,3H,5H)-pyrimidinetrione, 5-ethyl-5-(3-methylbutyl)- (R CI)
 C11-M-82-03
 RE 726.27, RE 156-158 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7122 Blood, plasma	Ingestion		1	Not given	4.5 ug/ml	6 hr after 1 g Amquise (90 mg dihydroquinidine, 10 mg anethal) 16 yr old Headache, vertigo, pleurisy, photophobia, sinus tachycardia (125 bpm) at admission 6 hr after dose. SYMPTOM: ADOLESCENTS: CASE HISTORIES; BLOOD PLASMA; URINE; ANTIARRHYTHMIC AGENTS; DRUG ABUSE; DRUGS; LAVAGE	Leone, N. Devos, D.M. Reymart, N. 1981 Clinical Toxicology 16(8):658-662
7123 Urine	Ingestion	Colorimetry		4-16 ug/ml	Not given	1 ml 7 hr after 400 mg. Anal measured 12 mg/ml at 12 hr Results corrected to a urine relative density of 1.024. URINE; DRUGS; HYPOPHOSPHATES; SEDATIVES; MEASUREMENT METHODS	Pohl, P. 1976 Clinical Chemistry 21(11):1609-1611

Barbituric acid, 5-ethyl-5-phenyl- (R CI)
 2,4,6 (1H,3H,5H)-pyrimidinetrione, 5-ethyl-5-phenyl- (R CI)
 50-06-6
 C12-N12-82 03
 RE 232.23, RE 174-178 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7124 Blood		GC HPLC GC/MS Enzymatic	2	50.0-77.0 mg/l	Not given	Dose probably sufficient to contribute to signs and symptoms Results from 4 laboratories receiving identical samples for toxic screen Overdose Aragon identified in 50%-70% of cases Laboratories agreed on 6 of 23 drugs reported present in more of 20 patients Results were variable and appeared imprecise. Probable drug overdose patients, Boston, MA SYMPTOMS: BLOOD; ANALGESICS; ANTIARRHYTHMICS; ANTIEMETICS; ANTIHYPERTENSIVES; ANTIHYPERTENSIVES; DRUG ABUSE; DRUGS; ENZYMES; HYPOPHOSPHATES; MEASUREMENT METHODS; SEDATIVES; TRANSDUCERS; COMPARATIVE EVALUATIONS; ALCOHOLS; MEASUREMENT METHODS	Isaelfinger, J.A. Isakson, G. Shine, D. Contello, C.E. Goldman, P. 1981 Clinical Pharmacology and Therapeutics 29(5):570-575

(END PAGE)

Barbituric acid, 5-ethyl-5-phenyl- (0 CI)
2,6,4(1H,3H,5H)-pyrimidin-5-yl-5-phenyl- (0 CI)
50-06-6
C12-812-22-03
MW 232.23, BP 174-176 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7125 Blood		UV	11	0.5-7.6 ug/100 ml	Not given	Drug induced fatalities. Phasol (9 cases, 0.01-0.38 g/100 ml), secobarbital (1 case, 0.2 g/100 ml), etchlorvetol (1 case, 0.34 g/100 ml), secobarbital-secobarbital (1 case, 0.34 g/100 ml), secobarbital (1 case, 0.1 g/100 ml), phenytoin (1 case, 0.1 g/100 ml), diphenhydramine (1 case, 0.01 g/100 ml) also found. Autopsies, 1975-76, Los Angeles County, CA CALIFORNIA: AUTOPSIES: CASE NORTH CAROLINA: BLOOD; DRUG ABUSE: DRUGS; FORENSIC MEDICINE: ALCOHOLS	Matsumura, S.B. Kouchi, T. Schlesinger, E.C. 1979 Journal of Analytical Toxicology 1:137-152
7126 Blood		GC	1	Not applicable	9.6 ug/g	Driver fatally injured in single-car crash. Blood alcohol 30 mg% North Carolina NORTH CAROLINA: BLOOD; DRUG ABUSE; DRUGS; ALCOHOLS	Turk, R.P. Hudson, A.J. Hudson, P. 1974 Journal of Forensic Sciences 19(1):90-97
7127 Blood, Plasma	Ingestion	GC	41	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) 40-5 ug/ml h) 7-1.5 ug/ml i) 0-3.5 ug/ml j) 10-9.2 ug/ml	a) 25.3 ug/ml b) 31.1 ug/ml c) 5.7 ug/ml d) 11.0 ug/ml e) 10.5 ug/ml f) Not given g) Not given h) Not given i) Not given j) Not given	a) Mother, at delivery, dose 100 mg increased from 100 mg at 2nd trimester b) Mother, at delivery, dose 97 mg c) Mother, at delivery, dose 95 mg d) Infant of a), 12 hr-15 day after parturition, cord blood level 21.5 ug/ml e) Infant of b), 12 hr-10 day after parturition, cord blood level 35.8 ug/ml f) Infant of c), 12 hr-9.5 day after parturition, cord blood level 5.8 ug/ml g) Infant of d), 13 hr-7 day after parturition, cord blood level 9.2 ug/ml h) Infant of e), 36 hr-15 day after parturition, cord blood level 10.9 ug/ml i) Daily dose during pregnancy with last dose 2.5-12.5 hr before delivery j) Temporary increase 1st day postpartum in 3 of 4 newborns k) 1) estimated from graph l) Pediatric mothers and their full-term male infants, Tokyo Jaundice in two newborns JAPAN: ADULTS: NEUROLOGIC: CENTRAL NERVOUS SYSTEM DISORDERS: BLOOD PLASMA: ANTICOAGULANTS; DRUGS; PYRETHROID; SEDATIVES; PREGNANCY; DRUG THERAPY	Ishizaki, T. Yoshida, K. Chiba, K. Yabuchi, T. Wakatsuki, T. 1981 Pediatric Pharmacology 1:291-303

(NEXT PAGE)

Barbituric acid, 5-ethyl-5-phenyl- (8 CI)
 2,4,6-trimethyl-5-phenylpyrimidin-2-one, 5-ethyl-5-phenyl- (9 CI)
 C12-H12-N2-O3
 MW 232.23, MP 174-176 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7128 Blood, plasma	Injection	GC	a) 6 b) 6	a) 11.5-29.0 ug/ml b) 3.6-16.9 ug/ml	a) 16.2 $\pm$ 0.3 ug/ml b) 11.8 $\pm$ 0.5 ug/ml	a) Peak, 0.25-2.00 hr (mean 0.92 $\pm$ 0.40 hr) after 10 mg/kg phenobarbital b) Peak, 1.3-6.0 hr (mean 5.83 $\pm$ 2.34 hr) after 10 mg/kg phenobarbital acid, 1M Peak times significantly different 5-18 mo old children with febrile convulsions Transient sedation in some BLOOD PLASMA: CEREOSPINAL FLUID: AMTICONSULSANTS: DRUGS: MYOTICS: SEPARATES: COMPARATIVE EVALUATIONS	Kinagawa, K. Mura, K. Takahashi, T. 1981 Pediatric Pharmacology 1:278-289
7129 Blood, plasma	Injection	GC	a) 64 b) 34	a) 5.1-28.0 ug/ml b) 8.5-35.5 ug/ml	a) 11.6 $\pm$ 0.5 ug/ml b) 17.8 $\pm$ 0.4 ug/ml	a) 2.71 $\pm$ 0.41 mg/kg/day b) 2.51 $\pm$ 0.40 mg/kg/day, plus valproic acid c) 1.81 $\pm$ 0.40 mg/kg/day, plus valproic acid For both a) and b) ratio of level to dose increased with age 0.25-16.2 yr old epileptics AGE: CHILDREN; BLOOD PLASMA: AMTICONSULSANTS: DRUG INTERACTION: DRUG THERAPY: DRUGS	Sujanee, T. Isaizaki, T. Shiba, K. 1981 Journal of Pediatrics 99(2):318-317
7130 Blood, plasma	Injection	GC	2	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable	a) 115 ug/l b) 155 ug/l c) 60 ug/l d) 165 ug/l e) 100 ug/l f) 54 ug/l	a) 31 yr old, 2 days after admission b) 24 hr later at beginning charcoal hemoperfusion c) After 7 hr hemoperfusion d) 18 yr old, initial measurement e) After 1.5 hr charcoal hemoperfusion f) After 4 hr hemoperfusion Dose unknown Oscillations, hypothermic, hypotensive, hypoxic UNITED KINGDOM: ADOLESCENTS: ADULTS: CASE HISTORIES: BLOOD PLASMA: DRUG ABUSE: DRUGS: MYOTICS: MUSCLE RELAXANTS: THEOPHYLLINES	Ramer, S. Crosse, P. Vale, A. Helliwell, M. Widdop, B. 1982 Archives of Toxicology 49:303-310

(SEE PAGE)

Barbituric acid, 5-ethyl-5-phenyl- (6 CI)
2,4,6-tris(1H,3H,5H)-pyrimidin-2-yl-5-phenyl- (9 CI)
SC-06-6
C12-N12-W2-03
NO 232.23, NP 178-178 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7131 Blood, plasma	Injection Ingestion	GC		a) 1.8-6 ug/ml b) 2-9 ug/ml c) 18-40 ug/ml d) 2.3-11 ug/ml e) 0.2-4.5 ug/ml f) 4-12 ug/ml g) 4-50 ug/ml h) 17-10 ug/ml i) Not given j) Not given k) 2.3-7 ug/ml l) 1.2-6 ug/ml	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given	a) a mother, at delivery, after 50 ug 2x/day b) newborn of a) at delivery c) newborn of a) at end of 7 day treatment. 5 ug/kg within 2 hr of birth, 18, and 50 ug/kg/day, oral, thereafter d) newborn of a), 20 days after birth, treatment as in c) e) newborn of a), 3 days after delivery f) a mother, at delivery, after 50 ug 2x/day g) newborn of f) at delivery h) newborn of f) at end of 7 day treatment, dose regime as in c), receiving phototherapy for elevated serum bilirubin levels i) New born of f), 20 days after birth, dose regime as in c), on phenobarbital therapy j) Mother as in f), 3 days after delivery k) Estimated from graph l) Expectant mothers and newborn (gestational age 32-37 wk) receiving phenobarbital to reduce risk of hyperbilirubinemia ADULTS: NEWBORN: BLOOD PLASMA: DRUG THERAPY: DRUGS: PREGNANCY	Roberts, L.O., Mallory, B., Walling, A., 1978 Journal of Pediatrics 93(4):695-698
7132 Blood, serum	Injection	GC	21	13.2-71.6 ug/l	35.9 ug/l Median	Dose 8-34 mg/kg (mean 21.4 vor- 7.1 ug/kg), rate 120 mg/hr until predetermined clinical end-point. Phenobarbital adducts, 16-73 yr old, estimated mean daily intake 1 g (range 0.5-3 g) ADULTS: BLOOD SERUM: ANTICONVULSANTS: DRUG ABUSE: DRUG THERAPY: DRUGS	Robinson, J.W., Sellers, E.M., Jasecek, E., 1981 Clinical Pharmacology and Therapeutics 30(1):71-76
7133 Blood, serum	Injection Ingestion	BIA	1	81.9-10.9 ug/ml	Not applicable	7 and 16 days after birth Doses: 10 mg/kg, IV, on day 2 and followed by 10 mg/kg IV, to day 7 Changed from IV to oral on day 5. Phenytoin also administered. Infant, wt 1,895 g, suffering seizures 2nd day after birth and treated with Dilantin and Phenobarbital NEWBORN: BLOOD SERUM: ANTICONVULSANTS: DRUG THERAPY: DRUGS	Wiczykian, S., Kasjaran, S., Posenfeld, C.F., 1982 Journal of Pediatrics 100(1):186-189
7136 Cerebrospinal fluid	Injection	GC	a) 6 b) 6	a) 3.2-6.6 ug/ml b) 8.1-9.2 ug/ml	a) 5.4 vor- 1.3 ug/ml b) 8.0 vor- 1.6 ug/ml	a) 1 hr after 10 mg/kg phenobarbital sodium, 25, 34% of plasma b) 4 hr after 10 mg/kg phenobarbital acid, 1%, 50% of plasma level Levels for a) and b) similar when peak plasma levels attained 6-18 mo old children with febrile convulsions Transient sedation in some BLOOD PLASMA: CEREBROSPINAL FLUID: ANTICONVULSANTS: DRUGS: THERAPEUTICS: SEDATIVES: COMPARATIVE EVALUATIONS	Wladyslaw, T., Wladyslaw, T., Chibrikov, T., 1981 Pediatric Pharmacology 1:279-289

(NEXT PAGE)

Barbituric acid, 5-ethyl-5-phenyl- (8 CI)
2,4,6-trimethyl-5-phenylpyrimidin-2,4,6-trione, 5-ethyl-5-phenyl- (9 CI)
50-06-6
C12-812-82-03
MW 232.23, MP 176-178 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7135 Urine	Ingestion	Colorimetry		13-2 ug/ml	Not given	3 hr and 7 days after 800 mg initial measurement 8 ug/ml at 1 hr. Results corrected to a urine relative density of 1.024. Estimated from graph METHODS: DRUGS; HYPMOTICS; SEDATIVES; MEASUREMENT METHODS	Febr, P. 1975 Clinical Chemistry 21(11):1609-1611

Barbituric acid, 5-sec-butyl-5-ethyl-, sodium salt (8 CI)
2,4,6-trimethyl-5-ethyl-5-phenylpyrimidin-2,4,6-trione, 5-ethyl-5-(1-methylpropyl)-, sodium salt (9 CI)
143-81-7
C10-H16-N2-O3-Na
MW 235.27

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7136 Blood		UV	1	Not applicable	0.3 ug/100 ml	Drug induced fatality. Ethanol 0.16 g/100 ml and phenobarbital 0.4 ug/100 ml also found. Autopsy, 1975-76, Los Angeles County, CA CALIFORNIA: AUTOPSIES; CASE HISTORIES; BLOOD; DRUG ABUSE; DRUGS; FORENSIC MEDICINE; ALCOHOLS	Makarewicz, G.P. Kouchi, T.T. Grzesmer, E.C. 1979 Journal of Analytical Toxicology 3:137-142
7137 Urine	Ingestion	DIA	1	200-550 ug/l	Not given	1-48 hr after 100 mg. Initial measurement 10 ug/l. 260 ug/l at 72 hr. Volunteer URINE; DRUGS; HYPMOTICS; NARCOTICS; MEASUREMENT METHODS	Uastepi-Gomez, A. Hewman, J.E. Clelland, R. RCShee, R. Tallachak, Z. Audzie, T. Grunberg, E. 1975 Clinical Chemistry 21(10):1378-1382

Pentamethanamine, alpha-methyl-4-propyl-, (+)-
53366-97-1
C12-819-8
MW 177.32

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7138 Urine	Ingestion	GC	2	a) Not given b) Not given	a) 13.45 of dose b) 3.58 of dose	a) Metabolite, 1-(4-hydroxyphenyl)-2-(n-propylamino) propanol b) Metabolite, 1-(4-hydroxy-3-methoxyphenyl)-2-n-propylamino propanol 28 hr output after 25 mg (base equivalent) dose Healthy 28 and 44 yr old URINE; AUTOTOMIC DRUGS; DRUGS; PSYCHOTROPIC DRUGS; METABOLITES	Coutts, P.T. Dawson, G.W. 1977 Research Communications in Chemical Pathology and Pharmacology 17(2):349-352

Beta-D-Glucopyranosiduronate acid, cyanophenylethyl, (P) -
 132-86-1
 C16-815-8-07
 BR 309.27, BP 216-216 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7139 Blood	Ingestion	Colorimetry	6	a) 0.4-2.05 ug/ml b) 1.01-2.01 ug/ml	a) Not given b) Not given	a) Range of C ₀ peaks 1.5 - 2 hr after 0.5 g, oral, total dose 0.5 g 3x/day for 7 days, 6 subjects b) Peaks, days 4 and 5 after 0.5 g, oral, 3x/day, plasma 3 h, almonds with breakfast, 1 subject. Peak before almonds, 0.6 ug/ml Terminal cancer patients, wt 47-66 kg Aspirin at doses and schedules used had no significant side effects. Adding almonds to diet increased blood C ₀ and caused nausea, vomiting, diarrhea, light-headedness, lightheadedness, and constipation. Symptoms subsided after 1.5 hr. Wallingford progressed at periods of 5 to 15 weeks after starting treatment. CAPSOMAS; SARCOMAS; BLOOD; PLASMA; PRIME; DRUG INTERACTION; DRUG THERAPY; DRUGS; CHARTER; THIOCYANATES; DIETS; METABOLITES	Roedel, C.G., Aase, H.M., Koyach, J.S., Koyach, T.P., Rubin, J.P., Tinker, J.N., 1981 Journal of the American Medical Association 245(6):591-594
7140 Blood, Plasma	Ingestion	Colorimetry GC/MS	6	a) Not given b) Not given c) 2-27 ug/ml	a) 1,160 ug/ml b) <1 ug/ml c) Not given	a) Peak, unchanged drug after 0.5 g/kg a/day, IV, for 21 days b) Peak, unchanged drug 10-40 min after first dose of 0.5 g, oral c) Mean peak levels thiocyanate 2 h after 0.5 g, oral, 4-6, day 1 and day 14. Total dose 0.5 g 3x/day Most IV dose excreted unchanged in urine Increased blood cyanide after oral dose Terminal cancer patients, wt 47-66 kg Aspirin at doses and schedules used had no significant side effects. Adding almonds to diet increased blood cyanide, and caused nausea, vomiting, diarrhea, light-headedness, lightheadedness, and constipation. Symptoms subsided after 1.5 hr. Wallingford progressed at periods of 5 to 15 weeks after starting treatment. CAPSOMAS; SARCOMAS; BLOOD; PLASMA; PRIME; DRUG INTERACTION; DRUG THERAPY; DRUGS; CHARTER; THIOCYANATES; DIETS; METABOLITES	Roedel, C.G., Aase, H.M., Koyach, J.S., Koyach, T.P., Rubin, J.P., Tinker, J.N., 1981 Journal of the American Medical Association 245(6):591-594

(CONT. PAGE)

(Continued)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	DEATH	GENERAL INFORMATION	REFERENCE
Trial Blind	Injection Ingestion	Colerisectry	6	a) 62-968 in 8-32%	a) Not given b) Not given	a) 0.5 g/mq w/day, iv, 21 days b) 0.5 g 31/day, oral, 7 days c of dose mean 26 h excretion Terminal cancer patients, wt 47-66 kg bergalin at doses and schedules used had significant side effects. Adding alimida to diet increased blood CW and caused nausea, vomiting, headache, light-headedness, liden sensations in extremities. Symptoms subsided after 1.5 hr. malignancies progressed at periods of 5 to 15 weeks after starting treatment.	Noortel, C.G. Aars, M.P. Kovsch, J.S. Royer, R.P. Rubin, J.B. Tucker, J.N. 1981 Journal of the American Medical Association 245(4):597-598
						CAPTEWAS; SARCOSIS; BLOOD; TRIAL; TRIAL; SUBSTANTIATION; 9883 THREAT; DRESS; CHAIR; TRIACINATES; BLEES; METABOLITES	

Branche, 17-4100011- (CJ)
Industrielle, 17-4100011- (CJ)
65-20-9
COMBINS
COMBINS
COMBINS

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE CITE
T182 Blood, plasma	Injection Ingestion	GC-EC	16	a) 9-0.02 ug/ml b) 1.30-0.59 ug/ml c) 4.03-1.81 ug/ml d) 8.20-1.89 ug/ml e) 6.10-1.79 ug/ml f) Not given	a) Not given b) 1.02 +/- 0.34 ug/ml c) 3.10 +/- 0.93 ug/ml d) 3.25 +/- 0.97 ug/ml e) 3.28 +/- 1.46 ug/ml f) 2.5 ug/ml	a) 0 and 12 hr after 0.25 g IV (# subjects) b) Mean peaks, 2.2 hr after 0.5 g oral (# subjects) c) Mean peaks, 1.5 hr after 1.5 g oral (# subjects) d) Mean peaks, 2.1 hr after 1.0 g oral (# diabetic cm) e) Mean peaks, 2 hr after 1.0 g oral (# diabetics), # taking chlorpropamide f) Peak level, after 0.5 g 2x/day for 12 days (# diabetics) a) and f) estimated from graph 46-81 yr old maturity onset diabetics and healthy 30-36 yr olds ADULTS: DIABETES; BLOOD PLASMA; ORINE: DRUG THERAPY; DRUGS; BIOACCUMLATION	Tucker, G.T. Casey, C. Phillips, P.J. Connor, R. Ward, J.D. Rood, H.P. British Journal of Clinical Pharmacology 12:235-246
T182 Urine	Injection Ingestion	GC-EC	16	a) Not given b) 31.6%-59.3% c) 28.3%-8.3% d) 26.5%-8.2% e) 18.1%-39.5%	a) 79% +/- 28 b) 49.6% +/- 12.5% c) 37.9% +/- 6.6% d) 36.1% +/- 8.9% e) 38.7% +/- 7.0%	a) 0.25 g IV (# subjects) b) 0.5 g oral (# subjects) c) 1.5 g oral (# subjects) d) 1.0 g oral (# diabetics) e) 1.0 g oral (# diabetics), # taking chlorpropamide f) exchanged drug recovered within 72 hr a) estimated from graph 46-81 yr old maturity onset diabetics and healthy 30-36 yr olds ADULTS: DIABETES; BLOOD PLASMA; ORINE: DRUG THERAPY; DRUGS; BIOACCUMLATION	Tucker, G.T. Casey, C. Phillips, P.J. Connor, R. Ward, J.D. Rood, H.P. British Journal of Clinical Pharmacology 12:235-246

Elasmuth
7460-69-9
FI
EW 208.98, BP 271.5 C, BP 1579 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7146 Blood	Ingestion	AAS	52	a) 1.0-1.2 ug/ml b) 0.9-2.6 ug/ml c) 2.5-8.0 ug/l d) 2.0-35.0 ug/l	a) 1.0 ug/l b) 1.7 *or- 0.7 ug/l c) 4.2 *or- 2.0 ug/l d) Not given	a) 3 of 20 healthy blood donors b) Day 5. Same as a) (16 ug/ml) c) Day 10. Same as b) followed by 20 ug/day (8 subjects) d) Last day after 5 ug/day for a-6 e) 10 days posttreatment (same as c) f) 24 ulcer patients	Lee, S.P. 1981 Research Communications in Chemical Pathology and Pharmacology 34(2):359-364
7145 Urine	Ingestion	AAS	32	a) 240-708 ug/24 hr b) 400-1350 ug/24 hr c) 118-1330 ug/24 hr d) 85-1052 ug/24 hr e) 26-997 ug/24 hr f) 52-664 ug/24 hr	a) 410 *or- 134 ug/24 b) 926 *or- 267 ug/24 c) Not given d) Not given e) Not given f) Not given	a) Day 7 after 10 ug (16 ug/ml) b) Day 10. Same as a) followed by 20 ug/day (8 subjects) c) Last day after 5 ug/day for a-6 d) 24 ulcer patients e) 5 days posttreatment (same as c) f) 10 days posttreatment (same as c) g) 10 days posttreatment (same as c) h) tripotassium dicitrate-bisphosphate i) 21-68 yr olds	Lee, S.P. 1981 Research Communications in Chemical Pathology and Pharmacology 34(2):359-364

Ecimide
28558-67-9
FI
EW 79.90, BP -7.2 C, BP 58.78 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7146 Blood, urine				a) 0-49 ug/dl b) 50-99 ug/dl c) 100-199 ug/dl d) >200 ug/dl	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 48, 49-24 of patients b) 20, 2-22.4 c) 22, 2-25.0 d) 5, 9-6.3 Data expressed as MMR Levels in patients admitted to psychiatric hospitals	Andrews, S. Pacheco, I. Ogry, H.G. 1974 Medical Journal of Australia 1(1):18-19
						Australia ADULTS: BLOOD SERUM: NEG ABUSE: DRUGS	

Petropoulos, S. (S-(p-chlorophenyl)-8-hydroxy-1-phenyl-4-fluoro- (S CI)
 1-butane, S-(S-(p-chlorophenyl)-8-hydroxy-1-piperidinyl)-1-(4-fluorophenyl) - (S CI)
 52-86-8
 C21-823-C1-F-M-02
 MW 375.60, MP 188-189.5 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7187 Blood, plasma		NIA	a) 1 b) 1 c) 1 d) 1	a) 16.2-23.8 ng/ml b) 21.9-27.6 ng/ml c) 80.3-162.8 ng/ml d) 104.9-181.6 ng/ml	a) Not given b) Not given c) Not given d) Not given	a) 10 ng/day b) 20 ng/day c) 60 ng/day d) 60 ng/day Range of weekly means. Treated 3 wk. Absence of coffee and tea during wk 2 did not increase bioavailability. Mentally retarded patients with psychotic disturbances. NEW ZEALAND: ADULTS: BEHAVIOR DISORDERS: MENTAL RETARDATION; BLEND PLASMA: PSYCHOTROPIC DRUGS; COMPARATIVE EVALUATIONS; DIETS; DRUGS: CAFFEINE	Bosen, S. Taylor, K.M. Gibb, I.A. MCL. 1981 Lancet (19231): 1217-1218
7188 Blood, urine	Ingestion	NIA	98	a) 8-30 ng/ml b) 15-90 ng/ml c) 25-65 ng/ml	a) Not given b) Not given c) Not given	a) 10-100 ng/kg/day b) >100-200 ng/kg/day c) >200-100 ng/kg/day Range estimated from graph Positive correlation with salivary levels 18-54 yr old schizophrenics, Japan JAPAN: CENTRAL NERVOUS SYSTEM DISEASES: NERVOUS SYSTEM DISEASES; BLOOD SPERM; SALIVA: DRUG THERAPY; DRUGS: PSYCHOTROPIC DRUGS; MEASUREMENT METHODS	Yamazaki, S. Mura, S. 1981 International Pharmacopsychiatry 16:174-183
7189 Saliva	Ingestion	NIA	98	a) 2-32 ng/ml b) 4-140 ng/ml c) 35-160 ng/ml	a) Not given b) Not given c) Not given	a) 10-100 ng/kg/day b) >100-200 ng/kg/day c) >200-100 ng/kg/day Range estimated from graph Positive correlation with serum levels 18-54 yr old schizophrenics, Japan JAPAN: CENTRAL NERVOUS SYSTEM DISEASES: NERVOUS SYSTEM DISEASES; BLOOD SPERM; SALIVA: DRUG THERAPY; DRUGS: PSYCHOTROPIC DRUGS; MEASUREMENT METHODS	Yamazaki, S. Mura, S. 1981 International Pharmacopsychiatry 16:174-183

Caffeine (S CI)
 1H-purine-2,6-dione, 3,7-dihydro-1,3,7-trimethyl- (S CI)
 58-08-2
 C8-810-84-02
 MW 196.19, MP 238 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7150 Blood, plasma	Ingestion	TLC GC	a) 1 b) 1	a) 1600-500 ng/ml b) 1700-1300 ng/ml	a) Not applicable b) Not applicable	a) 0.5 and 12 hr b) 1 and 12 hr Estimated from graph 320 mg plus 84 mg salicylic acid 320 mg salicylic acid, and 60 mg cocaine phosphate 30 and 32 yr old nursing mothers ADULTS: BLOOD PLASMA: MILK; ANALGESICS; DRUGS: NARCOTICS; CAFFEINE; LACTATION	Findlay, J.W.A. DeAngelis, R.L. Keeney, R.F. Wacht, R.S. Findlay, J.W. 1981 Clinical Pharmacology and Therapeutics 29 (5):625-633

(SEE PAGE)

Caffeine (8 CI)
1H-Perline-2,6-dione, 3,7-dihydro-1,3,7-trimethyl- (9 CI)
CB-08-2
CB-810-NA-02
MW 194.19, BP 238 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7151 Blood, plasma	Ingestion	HPLC	16	2.83-2.37 ug/ml	Not given	2 and 4 hr after 250 mg. Initial measurement 2.86 ug/ml at 1 hr Increase in plasma free fatty acid levels and urinary catecholamines, but no change in plasma binding of chloriazepoxide, diazepam, or propranolol. BLOOD PLASMA: DRUG INTERACTION; DRUGS: FATS; CAFFEINE	Petardhan, R.V. Desmond, P.V. Dunn, G.D. Robertson, R.R. Shaw, A.R. Schechter, S. 1980 Clinical Pharmacology and Therapeutics 26(3):398-403
7152 Milk	Ingestion	TLC GC	a) 1 b) 1	a) 1300-400 ug/ml b) 1600-200 ug/ml	a) Not applicable b) Not applicable	a) 1.5 and 12 hr. Initial measurement 600 ng/ml at 0.5 hr b) 1 and 48 hr. Initial measurement 1000 ng/ml at 0.5 hr Estimated from graph Dose 64 mg, plus 32 mg phenacetin, 854 mg aspirin and 60 mg codeine phosphate 10 and 32 yr old nursing mothers ADULTS: BLOOD PLASMA: MILK; ANALGESICS; DRUGS; MARCOPTICS; CAFFEINE; LACTATION	Findlay, J.W.A. Dingelde, R.L. Keech, R.M. Findlay, J.R. 1981 Clinical Pharmacology and Therapeutics 29(5):625-633

Calcium
7440-70-2
Ca
Atw 40.08, BP 850 C, BP 1480 C, VP 10 mm Hg at 983 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7153 Blood, plasma	Ingestion	AAS	a) 10 b) 20 c) 20	a) 9.3-9.7 mg/100 ml b) 9.2-9.9 mg/100 ml c) 9.2-9.8 mg/100 ml	a) 9.5 mg/100 ml b) 9.5 mg/100 ml c) 9.6 mg/100 ml	a) Controls, non-nutrient supplement b) High-carbohydrate liquid c) High-carbohydrate liquid + supplement plus mineral capsule (100 mg Ca (CaCO ₃), 6 days/wk d) Supplement and mineral capsule as in b) plus 40 mg Zn as carbonate, 6 days/wk e) Range of means over 20 mo No supplements during a no nutrient lactation f) Significantly increased bt, wt, and plasma calcium levels during first 12 mo of supplementation, despite subnormal Zn levels in plasma throughout study g) Ca levels maintained within normal limits with a few exceptions h) 13 yr old prepubertal village schoolboys, Southern Iran i) TEAR: ADOLESCENTS; NUTRITIONAL DEFICIENCIES; BLOOD PLASMA; BLOOD SERUM; FERTHROCTES; CALCIUM; IRON; INCUBATORS; ZINC; DIETS	Konagay, H.A. Barboud, J.L. Rahoudi, M. Savari, P. Savari, P., S.F. Balster, J.A. 1978 American Journal of Clinical Nutrition 27(2):112-121

(NEXT PAGE)

Calcium
7440-70-2
Ca
Atw 40.08, mp 850 C, bp 1340 C, vp 10 mm Hg at 983 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7154 Blood, serum		Chem	100	a) Not given b) Not given c) Not given d) Not given	a) 9.06 $\pm$ 0.84 mg/100 ml b) 9.03 $\pm$ 0.89 mg/100 ml c) 9.68 $\pm$ 0.76 mg/100 ml d) 9.90 $\pm$ 0.72 mg/100 ml	a) 7c women lactating 2 mo or more b) 25 women from a) c) Women in b), 1 mo after supplementation with 500 mg Ca and 1,600 IU (40 mg) vitamin D daily d) 25 nonlactating controls, no supplement 22-34 yr olds, North India Serum chemistry suggested osteomalacia, but radiographs of pelvis and dorsolumbar spine showed no abnormalities. OSTEOMALACIA: DIFTS; LACTATION; PREPARITY; CALCIUM; PHOSPHORUS; VITAMIN D; DEFICIENCY; METABOLIC DISORDERS; HYPERCALCAEMIA; BLOOD SPERM	Warya, S.K. Rathore, S. Acora, S.S. 1981 Annals of Nutritional Metabolism 25:58-64
7155 Blood, serum	Injection Rectal		1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable	a) 9.2 mg/100 ml b) 5.8 mg/100 ml c) 8.1 mg/100 ml d) 8.8 mg/100 ml e) 8.9 mg/100 ml f) 9.6 mg/100 ml	a) 13 mo before admission b) At admission, 12 hr after Fleet enema (218 mg phosphate) c) Day 2, after 180 mg Ca gluconate, 81 mg Ca chloride, 40 mg NaHCO ₃ , all IV d) Day 3, additional 90 mg Ca and 40 mg NaHCO ₃ e) Day 4 f) Day 7 4.5 yr old with chronic renal failure Cardiopulmonary, hyperventilation, diarrhea, tachycardia CHILDREN: KIDNEY DISEASES; BLOOD SPERM; CALCIUM; PHOSPHORUS	Onard, S.C. O'Neill, J. Grupe, W.E. 1974 Pediatrics 53(1):105-106
7156 Urine	Ingestion	AMS	8	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 100 $\pm$ 28 mg/day b) 68 $\pm$ 19 mg/day c) 198 $\pm$ 71 mg/day d) 149 $\pm$ 44 mg/day e) 66 $\pm$ 16 mg/day f) 43 $\pm$ 12 mg/day g) 89 $\pm$ 14 mg/day h) 58 $\pm$ 6 mg/day	a) 226 mg/day b) 214 mg/day c) 223 mg/day d) 230 mg/day e) 228 mg/day f) 225 mg/day g) 234 mg/day h) 235 mg/day TILTIROIS: URINE; CALCIUM; FLUORIDE; PHOSPHORUS; METABOLISM	Stencher, H. Osis, D. Kraet, L. Kiatowski, E. Morris, C. 1975 Journal of Nutrition 105:733-740

Chloral hydrate (8 CI)
1,1-ethenediol, 2,2,2-trichloro- (9 CI)
C2-H3-Cl3-O2
MW 165.42, BP 57 C (also reported as 52 C), BP 98 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	REMARKS	GENERAL INFORMATION	REFERENCE
7157 Blood	Injection	HPLC	3	0.04-1.9 ug/100 ml	Not given	Drug induced fetal death. Atracurium (2 cases, 0.02-0.03 ug/100 ml), ethanol (1 case, 0.18 ug/100 ml), chloral hydrate (1 case, 0.10 ug/100 ml), cocaine (1 case, 0.05 ug/100 ml) also found. Measured as trichloroethanol. Reposited, 1978-76, Los Angeles County, CA CALIFORNIA; AUTOPSIES; CASP HISTORIES; BLOOD; DMG; ADOS; PPMs; POSTMORTEM; AICEMLS	Wassure, G.W., Naguchi, T.T., Sternberger, E.C., 1978 Journal of Analytical Toxicology 1:117-122

Chlorazepate-3-monosuccinate (No postings in CHEMLINE).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	REMARKS	GENERAL INFORMATION	REFERENCE
7158 Blood, Serum	Injection	HPLC	45	a) 0-40 ug/ml b) 5-87 ug/ml c) Not given	a) Not given b) Not given c) Not given	a) Chlorazepate succinate b) Chlorazepate Peak levels during first 3 hr after initiation of therapy. Dose 15-200 mg/24 hr IV Estimated from graph Hospitalized infants and children, age 1 days-15 yr, being treated for convulsions CRITICISM: IMPARTIAL; IMPRESSIONS; BLOOD SYSTEM; URINE; ANTIDOTICS; DRUG THERAPY; DRUGS	Kaufman, B.E., Wickell, J.B., Strehel, L., Buckley, J.A., Dane, A.G., DeMali, A.S., 1981 Journal of Pediatrics 98(2):116-123
7159 Urine	Injection	HPLC	15	a) 6-40X b) 3-60X c) 2-82X S.E.	a) 33 not given b) 10 not given c) 14 not given S.E.	a) Chlorazepate succinate b) Chlorazepate succinate c) Chlorazepate succinate Dose, 15-200 mg/24 hr IV as succinate CRITICISM: IMPARTIAL; IMPRESSIONS; BLOOD SYSTEM; URINE; ANTIDOTICS; DRUG THERAPY; DRUGS	Kaufman, B.E., Wickell, J.B., Strehel, L., Buckley, J.A., Dane, A.G., DeMali, A.S., 1981 Journal of Pediatrics 98(2):116-123

Clodronate disodium (No postings in CHEMLINE).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	REMARKS	GENERAL INFORMATION	REFERENCE
7160 Blood, Plasma	Injection	CC	6	a) 1-2.3 ug/ml b) 20-2.8 ug/ml c) 140-3.2 ug/ml	a) Not given b) Not given c) Not given	a) 1 and 4 hr after 3 mg/kg (mean AUC 8.5 ug/ml hr) b) 2 and 4 hr after 5 mg/kg (mean AUC 50.3 ug/ml hr) c) 1 and 6 hr after 10 mg/kg (mean AUC 102.7 ug/ml hr) Range of means, estimated from graph Healthy 23-30 yr old ADULTS; BLOOD PLASMA; DMG; DRUGS	Conrad, F.A., Lee, S.W., 1981 Clinical Pharmacology and Therapeutics 30(1):114-123

(NEXT PAGE)

clodronate disodium (No postings in CHEMLIST).

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBERS OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7161 Urine	Injection	CC	6	Not given	16.2 $\pm$ 0.7%	48 hr cumulative output of unchanged drug. No difference between 3, 6 and 12 mg/kg doses. Healthy 23-30 yr old. ADULTS; BLOOD PLASMA; URINE; URINE	Conrad, K.J., Lee, S.M., 1981 Clinical Pharmacology and Therapeutics 30(1):118-120

Copper
7480-50-8

Cu
RW 63.546, MF 1083 C, RP 2595 C, VP 1 μ g Hg at 1628 C, 10 μ g Hg at 1870 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBERS OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7162 Blood, serum	Injection	AAS	a) 23 b) 22	a) 21-16.5 μ mol/l b) 22-18 μ mol/l	a) Not given b) Not given	a) Preoperative and postoperative day 1-5. b) Postoperative day 1 and 5. Preoperative level 19 μ mol/l. 20 μ g Zn and 3.2 μ g Cu IV daily. Range of seans, estimated from graph. Surgery patients. ADULTS; BLOOD SERUM; COPPER; METALS; ZINC	Hallbook, T., Kedzella, H., 1978 Acta Chirurgica Scandinavica 188:823-826

Cotinine (9 CI)
2-Pyrrolidione, 1-methyl-5-(3-pyridinyl)-(5) - (9 CI)
866-56-6
C10-812-82-C
RW 176.21, 210-211 C at 6 μ g Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBERS OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7163 Blood, plasma	Inhalation Oral absorption	GC	161	a) 12-578.8 μ mol/l b) 13.1-3857.0 μ mol/l c) 82.1-3421.0 μ mol/l d) 29.1-5319.0 μ mol/l e) 135.7-4310.1 μ mol/l	a) 202.8 μ mol/l b) 1200.6 μ mol/l c) 1757.6 μ mol/l d) 2560.2 μ mol/l e) 1913.3 μ mol/l	a) 3 subjects, never used snuff, range 8.6-667.0 μ mol/l before snuffing. b) 10 occasional snuffers, range 18.8-3981.0 μ mol/l before snuffing. c) 8 daily snuffers, range 66.7-1876.0 μ mol/l before snuffing. d) 4 multiple dose snuffers, range 5.1-5227.0 before snuffing. e) 13 heavy cigarette smokers 2 min after finishing cigarette. 25 snuff users at meeting in Wellington, Somerset, United Kingdom. 116 heavy cigarette smokers at smokers' clinic, Maudsley Hospital. UNITED KINGDOM; ADULTS; BLOOD PLASMA; NICOTINE; METABOLISM; METABOLITES; SMOKING; TOBACCO	Russell, M.A.H., Jarvis, M.J., Devitt, G., Feyerabend, C., 1981 British Medical Journal 283(6295):818-817

Coumarin, 3-(alpha-cyanobenzyl)-6-hydroxy- - (8 Cl)
 28-1-Benzopyran-2-one, 8-hydroxy-3-(3-oxo-1-phenylbutyl)- - (9 Cl)
 81-81-2
 C19-016-08
 EW 308.32, MW 161 C

Tissue	Exposure Route	Analytical Method	Number of Cases	Dose	Reas	Clinical Information	Reference
7169	Ingestion	HPLC MS	6	a) 5.55-0.09 ug/al b) 5.51-0.02 ug/al c) 9-0.08 ug/al d) 5.73-0.03 ug/al e) 11.57-0.17 ug/al f) 11.26-0.05 ug/al	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) C12-110g warfarin level, 3.05 ug/ml at 1 hr. b) Same as a). Dose plus secobarbital, 1.86 ug/ml at 1 hr. c) C12-110g warfarin level, 2.56 ug/ml at 1 hr. d) Same as c). Dose plus secobarbital, 1.90 ug/ml at 1 hr. e) C12/C13-8, 5 (s and -) warfarin, 5.63 ug/ml at 1 hr. f) Same as e). Dose plus secobarbital, 3.76 ug/ml at 1 hr. Dose plus 5 mg/kg warfarin, 100 ug/dly for 7 days before and 5-9 days after warfarin. Range of means at 4 and 240 hr after dose.	O'Reilly, P.A. Wager, P.G. Hewitt, S. 1993 Clinical Pharmacology and Therapeutics 28(3):187-195
Blood, plasma						Healthy 18-30 yr olds Secobarbital reduced hypoprothrombemia of the pseudotumesc warfarin BLOOD PLASMA; ANTICOAGULANTS; DRUG INTERACTIONS; DRUGS	

[illegible]

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	SAMPLE	NOTES	GENERAL INFORMATION	REFERENCE
7165 blood			2	0.10-0.16 mg/100 ml	Not given	Drug induced fatalities. Etanol (1 case), 19.7/100 ml; propylthiouracil (1 case), 0.03 mg/100 ml; also 1981.	Watanabe, S. S. Toyochi, T. C. Sawada, E. C. 1979 Journal of Analytical Toxicology 3:117-142
						Autopsies, 1975-76, Los Angeles County, CA	
						CALIFORNIA: AUTOPSES; CASE	
						TESTED: BLOOD; DRUG ABUSE; DRUGS;	
						FORENSIC MEDICINE; ALCOHOLS	

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DIAGNOSIS	MEAN	GENERAL INFORMATION	REFERENCE
7166 Blood, plasma	Ingestion	Fluorometry	12	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 36.0 $\pm$ 5.8 b) 30.1 $\pm$ 5.6 c) 19.5 $\pm$ 6.2 d) 29.7 $\pm$ 6.5 e) 38.7 $\pm$ 7.5 f) 31.6 $\pm$ 7.5	a) 2.42 $\pm$ 0.48 hr, fasted control, no antacid b) 3.10 $\pm$ 1.47 hr, postprandial, no antacid c) 2.99 $\pm$ 1.33 hr, fasted, 15 ml Al(OH) ₃ gel d) 3.39 $\pm$ 1.56 hr, postprandial, 15 ml Al(OH) ₃ gel e) 3.40 $\pm$ 1.48 hr, fasted, 10 ml Al(OH) ₃ suspension f) 3.20 $\pm$ 1.68 hr, postprandial, 15 ml Al(OH) ₃ /Mg(OH) ₂ mixture Mean time to peak level after 250 mg diflunisal given just after antacid meal decreased peak level 16% Al(OH) ₃ gel reduced peak level 46% Mg(OH) ₂ suspension (fasting) increased early levels 110% at 0.5 hr and 68% at 1 hr Mean age 23 yr, mean wt 72 kg, healthy subjects	Tobert, J.A., Deschepet, P., Tsiandras, T.B., Mullie, A., Mullie, A.P., Reisinger, R.A.P., Huber, P.B., Hall, T.L.P., 1981 Clinical Pharmacology and Therapeutics 30(3):385-389
7167 Ur. Loc	Ingestion	Fluorometry	12	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 191 $\pm$ 34 b) 155 $\pm$ 30 c) 108 $\pm$ 21 d) 180 $\pm$ 37 e) 179 $\pm$ 27	a) Fasted control, no antacid b) Fasted control, 15 ml Al(OH) ₃ gel c) Postprandial, 15 ml Al(OH) ₃ gel d) Fasted, 10 ml Mg(OH) ₂ suspension e) Postprandial, 15 ml Al(OH) ₃ /Mg(OH) ₂ suspension Mean 96 hr recovery after 250 mg diflunisal given just after antacid meal before diflunisal had no effect on urinary recovery Al(OH) ₃ gel reduced mean 96 hr excretion 14% Mean age 23 yr, mean wt 72 kg, healthy subjects	Tobert, J.A., Deschepet, P., Tsiandras, T.B., Mullie, A., Mullie, A.P., Reisinger, R.A.P., Huber, P.B., Hall, T.L.P., 1981 Clinical Pharmacology and Therapeutics 30(3):385-389

tioguan (8 CI)
 Card-20(22)-enolide, 3-(10-2,6-dideoxy-beta-D-ribo-hexopyranosyl)-(1-4)-2,6-dideoxy-beta-D-ribo-hexopyranosyl)-(1-2, 10-14-dioxo-
 (3beta,5beta,12beta)- (9 CI)
 20830-75-5
 Cyt-R68-01a
 MW 780.92, MP about 285 C (decomp)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7168 Blood	Ingestion		1	a) Not applicable b) Not applicable	a) 11.0 mg/ml b) 1.3 mg/ml	a) Tissue measurement b) 20 hr after accidental ingestion of unknown quantity Healthy 2 yr old High levels tolerated without untoward effects. Intermittent sinus bradycardia and sinus pauses began 2 hr after admission and persisted 3 days. Child had no symptoms, remained well throughout hospitalization. CHILDREN: BLOOD; ANTIARRHYTHMIC AGENTS; DIURETICS; DRUGS	Harris, R.R. Kendall, W.E. Kendall, W. 1981 New England Journal of Medicine 305(11):64
7169 Blood, serum	Injection	RIA	6	3.0-6.5 ng/ml	4.2 $\pm$ 0.2 - 1.5 ng/ml	Steady state Dose 0.02 mg/kg initially, 0.01 mg/kg at 24 and 36 hr, 0.005 mg/kg at 48 hr and every 12 hr thereafter, IV Premature neonates, gestational ages 29-34, born 28.5-34.1 kg, postnatal ages 1-9 days (mean 3.1 days), at 820-2710 g (mean 1860 g) Therapy for left ventricular volume overload secondary to patent ductus arteriosus NEPHROGEN: BLOOD SERUM; DRUGS; ANTIARRHYTHMIC AGENTS; DIURETICS; ECG THERAPY; DRUGS	Wu, P.F. Cote, J. Schiff, D. Collins-Makel, S.L. 1981 Research Communications in Chemical Pathology and Pharmacology 34(2):207-216
7170 Blood, serum	Ingestion		1	18.3-4 mg/ml	Not given	36-170 hr after accidental ingestion of 2.5 g of drug Estimated from graph Level at 0 hr estimated by extrapolation, 4.1 $\pm$ 0.1 mg/ml Highest serum, 6.1 mg/ml at 48 hr 22 mo old child, wt 10.8 kg, with liquorin intoxication At 36 hr, vomiting, drowsy, dehydrated, stuporous, nonresponsive to stimuli, tachycardia, tachypnea, hyperthermia, diaphoresis, hypotension, hypoxia, total body discoloration with functional exam beats, 48 hr later patient less drowsy, electrocardiogram normal. CHILDREN: BLOOD SERUM; ANTIARRHYTHMIC AGENTS; DIURETICS; DRUGS	Pearce, G. Tuchman, S. Tuchman, J. 1980 Medical Journal of Australia 2(5):279-280
7171 Urine	Injection	RIA	12	a) 116-138 ng b) 138-175 ng c) 175-239 ng d) 239-314 ng e) 314-386 ng	a) 154 $\pm$ 0.4 b) 154 $\pm$ 0.4 c) 239 $\pm$ 0.4 d) 239 $\pm$ 0.4 e) 239 $\pm$ 0.4	a) 24 hr after 3 ml IV b) 24 hr after 50 min IV c) 24 hr after 10 min IV d) 24 hr after 10 min IV e) 24 hr after 10 min IV No effect of infusion rate on secretion Daily output for days 2-6 also given 20-45 yr olds NEPHROGEN: URINE; ANTIARRHYTHMIC AGENTS; DIURETICS; DRUGS	Lindabaugh, J. Lindabaugh, J. Lindabaugh, J. Lindabaugh, J. Lindabaugh, J. 1981 Clinical Pharmacology and Therapeutics 30(3):317-320

(UNIT PAIR)

Tigloin (8 CI)
Card-20(22)-ecolide, 3-(10-2,6-dideoxy-beta-D-ribo-hexopyranosyl)-(1-4)-2,5-dideoxy-beta-D-ribo-hexopyranosyl)-(1-4)-12,18-dihydroxy-,
(beta,5beta,12beta)~ (9 CI)
20030-75-5
C₂₅H₄₂O₁₆
MW 780.92, RP about 26.5 C (dec.vap)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7172 Urine	Injection	BIA	a) 5 b) 1 c) 1	a) 5.0-21.0% b) Not applicable c) Not applicable	a) 11.1 per-5.7% b) 1.8 c) 5.9%	a) 28 hr after 0.02 mg/kg b) 8 hr after 0.02 mg/kg c) 12 hr after 0.02 mg/kg 9 of dose Mean renal clearance 10.8 ml/min/1.3 sq m Premature neonates, gestational ages 26-34 w (mean 29.5 wk), postnatal age 1-14 days (mean 5.5 days), wt 250-2710 g (mean 1060 g) Therapy for left ventricular volume overload secondary to patent ductus arteriosus PREGNANT: BLOOD SERUM; URINE; ANTIARRHYTHMIC AGENTS; DIURETICS; DRUG THERAPY; DRUGS	Wj, E. S. Cote, J. Schiff, D. Collins-Wakai, S.I. 1981 Research Communications in Chemical Pathology and Pharmacology 38(2):207-216

Berline (8 CI)
Berline (8, 7, 10, 11-tetraethoxy- (9 CI)
803-18-1
C₂₅H₄₀O₁₀
MW 480.63, RP 7% C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7172 Bile	Ingestion	TLC	1	Not applicable	1.3 ug/g	After 90-120 ml ipecac syrup/day (63-84 g secine) over 3 mo. Total consumption 5.67 to 7.5 g secine Autopsy samples. 26 yr old, slightly overweight At admission, marked shortness of breath, heart palpitations, chest tightness, exertional dyspnea, extreme fatigue, blood pressure 75/60 mm Hg, pulse rate 150. Increased hypotension over next 24 hr until terminal ventricular tachycardia and fibrillation developed. PERICARDIAL FLUID: PERICARDIUM; LIVER; AUTOPSY; BILE; BLOOD; CEREBROSPINAL FLUID; KIDNEYS; LIVER; DRUG ABUSE; DRUGS; BLOOD PRESSURE	Adler, A.G. Vallinay, P. Krali, S.A. Cho, S.Y. 1980 Journal of the American Medical Association 243(19):1927-1928
7176 Blood	Ingestion	TLC	1	Not applicable	2.8 ug/g	After 90-120 ml ipecac syrup/day (63-84 g secine) over 3 mo. Total consumption 5.67 to 7.5 g secine Autopsy samples. 26 yr old, slightly overweight At admission, marked shortness of breath, heart palpitations, chest tightness, exertional dyspnea, extreme fatigue, blood pressure 75/60 mm Hg, pulse rate 150. Increased hypotension over next 24 hr until terminal ventricular tachycardia and fibrillation developed. PERICARDIAL FLUID: PERICARDIUM; LIVER; AUTOPSY; BILE; BLOOD; CEREBROSPINAL FLUID; KIDNEYS; LIVER; DRUG ABUSE; DRUGS; BLOOD PRESSURE	Adler, A.G. Vallinay, P. Krali, S.A. Cho, S.Y. 1980 Journal of the American Medical Association 243(19):1927-1928

(2277 PAGE)

Section (8 CI)
 Reeth, 6', 7', 10, 11-tetramethoxy- (9 CI)
 483-18-1
 C29-H40-O2-04
 MW 480.63, BP 74 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7175 Cerebrum Isol fluid	Ingestion	TLC	1	Not applicable	0.1 ug/g	After 90-120 ml ipscac syrup/day (13-34 mg wet/dose) over 3 mo. Total consumption 5.47 to 7.56 g wet/dose. Autopsy samples. 26 yr old, slightly overweight At admission, marked shortness of breath, heart palpitations, chest tightness, exertional dyspnea, extreme fatigue, blood pressure 75/40 mm Hg, pulse rate 150. Increased hypotension over subsequent 24 hr until ventricular fibrillation developed. PERICARDIAL FLUID; PENNSYLVANIA: ADULTS; AUTOPSIES; BILE; BLOOD; CEREBROSPINAL FLUID; KIDNEYS; LIVER; DRUG ABUSE; DRUGS; BLOOD PRESSURE	Adler, A.G., Walling, P., Walling, P.A., Chao, S.Y., 1940 Journal of the American Medical Association 283(19): 1927-1928
7176 Liver	Ingestion	TLC	1	Not applicable	7.4 ug/g	After 90-120 ml ipscac syrup/day (13-34 mg wet/dose) over 3 mo. Total consumption 5.47 to 7.56 g wet/dose. Autopsy samples. 26 yr old, slightly overweight At admission, marked shortness of breath, heart palpitations, chest tightness, exertional dyspnea, extreme fatigue, blood pressure 75/40 mm Hg, pulse rate 150. Increased hypotension over subsequent 24 hr until ventricular fibrillation developed. PERICARDIAL FLUID; PENNSYLVANIA: ADULTS; AUTOPSIES; BILE; BLOOD; CEREBROSPINAL FLUID; KIDNEYS; LIVER; DRUG ABUSE; DRUGS; BLOOD PRESSURE	Adler, A.G., Walling, P., Walling, P.A., Chao, S.Y., 1940 Journal of the American Medical Association 283(19): 1927-1928
7177 Liver	Ingestion	UV	1	Not applicable	14.0 ug/g	After 90-120 ml ipscac syrup/day (13-34 mg wet/dose) over 3 mo. Total consumption 5.47 to 7.56 g wet/dose. Autopsy samples. 26 yr old, slightly overweight At admission, marked shortness of breath, heart palpitations, chest tightness, exertional dyspnea, extreme fatigue, blood pressure 75/40 mm Hg, pulse rate 150. Increased hypotension over subsequent 24 hr until ventricular fibrillation developed. PERICARDIAL FLUID; PENNSYLVANIA: ADULTS; AUTOPSIES; BILE; BLOOD; CEREBROSPINAL FLUID; KIDNEYS; LIVER; DRUG ABUSE; DRUGS; BLOOD PRESSURE	Adler, A.G., Walling, P., Walling, P.A., Chao, S.Y., 1940 Journal of the American Medical Association 283(19): 1927-1928

(NEXT PAGE)

Enetine (8 CI)
Enetine, 6', 7', 10, 11-tetraethoxy- (9 CI)
463-18-1
C29-H40-O4
MW 460.63, MP 78 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7179 Pericardial fluid	Ingestion	TLC	1	Not applicable	0.7 ug/g	After 90-120 ml ipecac syrup/day (63-84 mg enetine) over 3 mo. Total consumption 5.67 to 7.56 g enetine. Autopsy samples. 26 yr old, slightly overweight At admission, marked shortness of breath, heart palpitations, chest tightness, exertional dyspnea, extreme fatigue, blood pressure 75/40 mm Hg, pulse rate 150. Increased hypotension over next 24 hr until terminal ventricular tachycardia and fibrillation developed. PERICARDIAL FLUID: ENETINYLAR: ACUTE: AUTOPSIES: BILE: BLOOD: CEREOSPINAL FLUID: KIDNEYS: LIVER: DRUG ABUSE: DRUGS: BLOOD PRESSURE	Adler, A.G. Walinsky, P. Frail, R.A. Chao, S.V. 1980 Journal of the American Medical Association 243(19):1927-1928

Enetopene, Conjugated (No postings in CHEMLINE).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7179 Blood, Plasma	Ingestion Vaginal	DTA	a) 6	a) Not given	a) 47.7 $\pm$ 5.0	a) 0.3 mg/day oral	Deutch, S. Goswami, P. Renukula, E. 1981 American Journal of Obstetrics and Gynecology 139(8):967-968
			b) 6	b) Not given	b) 47.7 $\pm$ 5.0	b) 0.3 mg/day vaginal	
			c) 6	c) Not given	c) -0.7 $\pm$ 3.0	c) 0.625 mg/day oral	
			d) 5	d) Not given	d) 47.7 $\pm$ 5.0	d) 0.625 mg/day vaginal	
			e) 1	e) Not given	e) 47.7 $\pm$ 5.0	e) 1.25 mg/day oral	
			f) 14	f) Not given	f) 47.7 $\pm$ 5.0	f) 1.25 mg/day vaginal	
						After 2 yr of therapy with conjugated estrogen preparation	
						Basal level 25-62 pg/ml	
						Vaginal application therapeutically effective, even at 0.3 mg/day, without significant increase in blood level	
						Same as basal	
						See 7179	
						Postmenopausal women	
						ADULTS: BLOOD PLASMA; DRUG THERAPY; DRUGS: HORMONES;	

Ethyl alcohol (8 CI)

Thiazol (9 CI)

C2-H6-O

PM 86.07, BP -117.3 C, SP 78.32 C, VP 40 mm Hg at 19 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUBJECTS OP CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7180 Blood		GC TLC IR/MS Enzymatic	a) 3 b) 3	a) 1100-1240 mμ/μ b) 0-560 mμ/μ	a) Not given b) Not given	a) Some probably less than toxic amount denied taking drug results from a laboratory receiving identical samples for analysis. One of the drugs identified in 508-708 of cases. Laboratories agreed on 4 of 23 drugs reported present in the serum of 20 patients. Levels variable and appeared imprecise. Probable drug overdose patients, Boston, MA MASSACHUSETTS: BLOOD: ANALGESICS; ANTICONVULSANTS; ANTIDEPRESSANTS; AGENTS; ANTIPTYRICS; DRUG ABUSE; DRUGS; HYPNOTICS; NARCOTICS; SEDATIVES; TRANQUILIZERS; COMPARATIVE EVALUATIONS; ALCOHOLS; WASTEWATER METHODS b) 0.73 μg loading dose 100 min after 15 mg antipyrine and 0.73 μg maintenance dose for 12 hr. Range of means at 5, 6, 9, and 12 hr Healthy 22-40 yr olds, wt 48-95 kg Island caused no change in the half-life, distribution volume, or clearance of antipyrine ADULTS: BLOOD; DRUG INTERACTION; DRUGS; ALCOHOLS	Regelinket, J.A. Lakson, G. Shise, D. Costello, C.B. Goldman, P. Clinical Pharmacology and Therapeutics 28(5):570-575
7181 Blood	Ingestion	Enzymatic	8	13.5-34.3 mμols/L	23.1 mμol- 1.3 mμol/L	a) At 100 and 220 min after 1.33 μg/kg b) At 100 and 220 min after 1.33 μg/kg Chlorothiazide given at 210 and 510 min Healthy 28-46 yr old moderate drinkers EUGO; DRUG THERAPY; DRUGS; ALCOHOLS; ALCOHOLIC BEVERAGES	Dossing, W. Andersen, P.B. Clinical Pharmacology and Therapeutics 32(1):101-104
7182 Blood	Ingestion		12	a) 110-10 mμ/100 ml b) 120-10 mμ/100 ml	a) Not given b) Not given	a) At 100 and 220 min after 1.33 μg/kg b) At 100 and 220 min after 1.33 μg/kg Chlorothiazide given at 210 and 510 min Healthy 28-46 yr old moderate drinkers EUGO; DRUG THERAPY; DRUGS; ALCOHOLS; ALCOHOLIC BEVERAGES	Widmer, A.L. Hylberg, O. Jensen, C.W. Larsen, E. 1980 Psychopharmacology 60:117-125
7183 Blood	Ingestion		9	0.38-0.135 1000 μg/mg (100)	Not given	Reference blood clots from victims surviving up to 12 hr after overdose. Post-mortem white indicated. (1000 μg/mg) (1000 μg/mg) ADULTS; BLOOD; BRAIN; DRUG ABUSE; DRUGS; TOXIC MEDICINE; ALCOHOLS	Prokrich, A.W. Blumstein, J.B. Lambert, J. 1979 Journal of Forensic Sciences 25(1):103-105
7184 Blood		GC	25	0.03-0.18 mμ/100 ml	Not given	Drug induced fatalities. Other drugs also found. Autopsies, 1977-79, Los Angeles County, CA CALIFORNIA: AUTOPSIES; CASE REPORTS; BLOOD; DRUG ABUSE; DRUGS; TOXIC MEDICINE; ALCOHOLS	Narashi, S.S. Moguchi, T.T. Glenner, G.C. 1979 Journal of Analytical Toxicology 3:127-132

STUDY	EXPOSURE STATUS	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	RESULTS	GENERAL INFORMATION	REFERENCE
7186 Blood		GC	503	a) 200-100 mg/100 ml b) 100-50 mg/100 ml c) 50-25 mg/100 ml	a) Not given b) Not given c) Not given	a) 83 of 104 unnatural deaths b) 34 of 113 unnatural deaths Deaths attributed solely to acute ethanol poisoning Autopsy data, 28 no period Data also by race, sex, age, cause and place of death, day of death, occupation, population density, and from other areas of the U.S. Whites, Blacks, and American Indians. 18-20 yr. with blood ethanol >300 mg/100 ml, etc. NORTH CAROLINA: AGE; SOCIAL STUDIES; SEX; BLOOD; DRUG ABUSE; DRUGS; COMPARATIVE EVALUATIONS; ALCOHOLS	Taylor, H.L. Fudson, R.P. 1977 Journal of Forensic Sciences 22(3):639-653
7187 Blood	TC	GC	29	a) Not detected b) 10-25 mg c) 100-150 mg d) 200-400 mg	a) Not given b) Not given c) Not given d) Not given	a) 13 drivers b) 6 drivers c) 10 drivers d) 11 drivers Deaths attributed to single car crashes Mean level 180 mg. In two cases phenobarbital or propoxyphene also detected. North Carolina NORTH CAROLINA; BLOOD; DRUG ABUSE; DRUGS; ALCOHOLS	Tark, B.P. Kocher, A.J. Strass, P. 1978 Journal of Forensic Sciences 19(1):90-97
7188 Blood		GC	69 112	a) 20-35 mg/100 ml b) 35-50 mg/100 ml c) 50-75 mg/100 ml	a) Not given b) Not given c) Not given	a) 21.3%, 17.8%, 27.1%, 8.7% b) 14.3%, 12.2%, 21.0%, 6.0% c) 10.8%, 7.3%, 13.7%, 3.7% Mean percentages, 1974-1977, of road accident casualties, for 35,501 drivers, 7,283 nondrivers, 21,863 male drivers, and 9,187 female drivers, respectively Victoria, Australia AUSTRALIA; BLOOD; DRUG ABUSE; ALCOHOLS; ALCOHOLIC BEVERAGES	McGarrett, P. Strass, P. 1976 Medical Journal of Australia 2(14):612-615
7189 Blood, plasma	Injection	GC	8	a) 20-200 mg/dl b) 10-500 mg/dl	a) Not given b) Not given	a) Deaths involving morphine and ethanol b) Deaths involving morphine, quinine and ethanol Wayne County, MI MICHIGAN; AUTOPSIES; DRUG ABUSE; DRUGS; NARCOTICS; PSYCHOTROPIC DRUGS; SEDATIVES	Monforte, J.A. 1977 Journal of Forensic Sciences 22(4):710-724
7190 Blood, plasma	Injection	GC	8	a) Not given b) Not given c) Not given	a) 97.7 mg - 19.7 mg/dl b) 71.4 mg - 10.4 mg/dl c) 108.7 mg - 26.8 mg/dl	a) Before delta-9-tetrahydrocannabinol (THC) b) During THC c) After THC Dose 1 ml 95% ethanol/kg. THC 10 mg/kg for 10 days. Three other patients showed no decrease during THC Healthy 20-29 yr olds BLOOD PLASMA; DRUG INTERACTION; DRUGS; SEDATIVES; METABOLISM	Benowitz, M.L. Jones, R.T. 1977 Clinical Pharmacology and Therapeutics 22(3):259-260

NEXT PAGE

(CONTINUED)

ethyl alcohol (9 CI)

Ethanol (9 CI)

84-17-6

C₂H₅-O

MW 46.07, BP -117.3 C, mp -78.12 C, VI 40 mm Hg at 15 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7100 Blood, serum	Ingestion	GC	1	Not applicable	0.46 g/l	Unknown dose of ethanol-isopropanol 45 yr old Coma, respiratory distress BLOOD SERUM: DRUG ABUSE; DRUGS: ALCOHOLS	Vasilades, J. Pollock, J. Podiasos, C.A. 1975 Clinical Chemistry 28(2):383-385
7101 Blood, serum	Ingestion		8	a) 159-13 mg/100 ml b) 178-8 mg/100 ml c) 153-5 mg/100 ml	a) Not given b) Not given c) Not given	a) 1 g/kg IV, plus 2 g/kg glucose, oral b) 1 g/kg IV, plus 2 g/kg fructose, oral c) 1 g/kg IV, plus a g/kg sucrose, oral 1 hr and 5-6 hr (mean) after dose. Alcohol removal rate significantly lower with b) and c) than with a) Range of cases, estimated from graph 25-53 yr old chronic alcoholics, normal liver function, abstained from alcohol at least 1 wk BLOOD SERUM: DRUG INTERACTION: DRUGS: SEDATIVES; METABOLISM	Sotenaki, J. Ike, Y.E. 1975 American Journal of Clinical Nutrition 28:254-257
7102 Brain	Ingestion		8	0.05-0.11% (weight/weight)	Not given	Victims surviving up to 13 hr after severe head injury while intoxicated. Peripheral blood levels 0-0.02% (weight/volume) AUTOPSES: BLOOD: BRAIN: DRUG ABUSE: DRUGS: FORENSIC MEDICINE; ALCOHOLS	Frederick, A.W. Sidman, J.B. Lukash, I. 1975 Journal of Forensic Sciences 20(1):83-85

Phylloquinone, 2-(diphenylmethoxy)-N,N-dimethyl- (8 CI)

Phthalazine, 2-(diphenylmethoxy)-N,N-dimethyl- (9 CI)

C₁₇H₂₁N-O

MW 285.35, BP 150-165 C at 2.0 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7103 Blood			1	Not applicable	0.80 mg/100 ml	Drug induced fatality. Ethanol, 0.29 g/100 ml, also found. Autopsy, 1975-76, Los Angeles County, CA CALIFORNIA: AUTOPSY: CASE FISTULA: BLOOD: DRUG ABUSE: DRUGS: FORENSIC MEDICINE; ALCOHOLS	Nakamura, T.P. Nishida, T.T. Stessner, E.C. 1979 Journal of Analytical Toxicology 3:137-142

PATIENTS
9007-73-2
FACT COMPOSITION UNKNOWN OR UNDETERMINED

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7198 Blood, serum	Injection	BIA	2	230-280 $\mu\text{g/l}$	Not given	Peaks, 7-9 days after 1-2 g elemental Fe. Estimated from graph 68 and 76 yr old anemics BLOOD SERUM; DRUG THERAPY: DRUGS; IRON; METALS; ANEMIA	Blenden, B.W., Lichten, J.W., Pudzi, Z., Fisher, R.J., 1981 Annals of Clinical Biochemistry 18:215-217

Fluoride
16988-88-8
ATV 18, 008a

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7195 Blood, serum	Inhalation	TE	18	a) Not given b) 10.7-42.8 μM	a) 3.4 μM b) Not given	a) Preoperative level b) 3 and 28 hr after 0.4-2g with aluminum oxide, 60% in oxygen Tricarbolic fluoride Range of means Patients undergoing ear surgery and receiving enflurane anesthesia ADULTS; BLOOD SERUM; ANESTHETICS; DRUG THERAPY; DRUGS; FLUORIDE	Overdentia, P., Singer, P., Dewhirst, J.-M., 1981 Clinical Pharmacology and Therapeutics 29(1):61-68
7196 Blood, serum	Ingestion		20	a) 0.01-0.023 ppm b) 0.02-0.05 ppm c) 0.015-0.045 ppm	a) 0.016 ppm b) 0.024 ppm c) 0.040 ppm	a) Basal diet (0.8) mg F/day for 5-9 yr. subjects b) Basal diet plus 5 mg F/day supplement for a w. (mean F intake 5.40 mg/day), 8 subjects c) Basal diet plus 10 mg F/day supplement for 5 w. (mean F intake 10.38 mg/day), 8 subjects Supplement given as 2.2 mg sodium fluoride tablets in divided doses with meals Range estimated from graph Healthy volunteers, 20-45 yr old (mean, 32 y), wt 60-88 kg (mean 70 kg), 156-188 cm (mean 176 cm), CA CALIFORNIA; ADULTS; BLOOD SERUM; DRUGS; FLUORIDE; BIOACCUMULATION; DIETS	Manenhardt, U.R., McDonald, J.T., Schmidt, V.S., Brinetti, A.J., Leyba, L., Newburn, P., Nolte, H.C., 1981 American Journal of Clinical Nutrition 34:2619-2684

(NEXT PAGE)

Fluoride
16984-88-8
F
AYB 18, 9088

(CONTINUED)

TIS-09	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7197	Ingestion		20	a) 0.53-0.98 mg/day b) 1.34-8.12 mg/day c) 5.76-7.47 mg/day	a) 0.7 mg/day b) 3.5 mg/day c) 6.76 mg/day	a) Nasal diet (0.41 mg F/day) for 5-9 wk, 9 subjects. Mean F balance, -0.40 mg/day. b) Nasal diet plus 5 mg/day F supplement for 4 wk (mean F intake 5.40 mg/day), 8 subjects. Mean F balance, 1.14 mg/day. c) Nasal diet plus 10 mg/day F supplement for 5 wk (mean F intake 10.18 mg/day), 8 subjects. Mean F balance, +2.88 mg/day. Supplement given as 2.2 mg sodium fluoride tablets in divided doses with meals. Healthy volunteers, 20-45 yr old (mean, 32 yr), wt 60-88 kg (mean 70 kg), 1.6-1.86 m (mean 1.74 m), CA 16-25. CALIFORNIA: ADULTS; BLOOD SERUM. TIME: FLUORIDE; BIOACCUMULATION; 11775	Wahdevari, H.F. McDonald, J.T. Schneiter, V.S. Prusoff, A.J. Leyba, L. Reburn, E. Rodge, H.C. 1981 American Journal of Clinical Nutrition 38:2679-2684
7198	Ingestion		8	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given l) Not given m) Not given n) Not given o) Not given p) Not given q) Not given r) Not given s) Not given t) Not given u) Not given v) Not given w) Not given x) Not given y) Not given z) Not given	a) 2.9 mg/day b) 3.2 mg/day c) 3.5 mg/day d) 3.8 mg/day e) 4.1 mg/day f) 4.4 mg/day g) 4.7 mg/day h) 5.0 mg/day i) 5.3 mg/day j) 5.6 mg/day k) 5.9 mg/day l) 6.2 mg/day m) 6.5 mg/day n) 6.8 mg/day o) 7.1 mg/day p) 7.4 mg/day q) 7.7 mg/day r) 8.0 mg/day s) 8.3 mg/day t) 8.6 mg/day u) 8.9 mg/day v) 9.2 mg/day w) 9.5 mg/day x) 9.8 mg/day y) 10.1 mg/day z) 10.4 mg/day	a) 4.0 mg/day b) 4.1 mg/day c) 4.2 mg/day d) 4.3 mg/day e) 4.4 mg/day f) 4.5 mg/day g) 4.6 mg/day h) 4.7 mg/day i) 4.8 mg/day j) 4.9 mg/day k) 5.0 mg/day l) 5.1 mg/day m) 5.2 mg/day n) 5.3 mg/day o) 5.4 mg/day p) 5.5 mg/day q) 5.6 mg/day r) 5.7 mg/day s) 5.8 mg/day t) 5.9 mg/day u) 6.0 mg/day v) 6.1 mg/day w) 6.2 mg/day x) 6.3 mg/day y) 6.4 mg/day z) 6.5 mg/day Metabolic research ward patients ILLINOIS: URINE, CALCIUM, FLUORIDE; ENDOCRINE; METABOLISM	Spencer, H. Giles, S. Kraus, L. Matkowski, E. Morris, C. 1975 Journal of Nutrition 105:733-740

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DATE	YEAR	GENERAL OBSERVATION	REFERENCE
7199 Blood, plasma	Injection Ingestion	RIA	2	a) 11-22 27/4 b) 1-6-5 22/1 c) 5-19 22/1 d) 7-11 22/1		a) Not given b) Not given c) Not given d) Not given	Polisson, D. Bisby, D. 1977 Clinical Chemistry 22(11):2085-2088
						a) 2 and 25 hr after 20 mg oral. b) 1 hr, 10 hr, 24 hr, 48 hr, 72 hr, 96 hr, 120 hr, 144 hr, 168 hr, 192 hr, 216 hr, 240 hr, 264 hr, 288 hr, 312 hr, 336 hr, 360 hr, 384 hr, 408 hr, 432 hr, 456 hr, 480 hr, 504 hr, 528 hr, 552 hr, 576 hr, 600 hr, 624 hr, 648 hr, 672 hr, 696 hr, 720 hr, 744 hr, 768 hr, 792 hr, 816 hr, 840 hr, 864 hr, 888 hr, 912 hr, 936 hr, 960 hr, 984 hr, 1008 hr, 1032 hr, 1056 hr, 1080 hr, 1104 hr, 1128 hr, 1152 hr, 1176 hr, 1200 hr, 1224 hr, 1248 hr, 1272 hr, 1296 hr, 1320 hr, 1344 hr, 1368 hr, 1392 hr, 1416 hr, 1440 hr, 1464 hr, 1488 hr, 1512 hr, 1536 hr, 1560 hr, 1584 hr, 1608 hr, 1632 hr, 1656 hr, 1680 hr, 1704 hr, 1728 hr, 1752 hr, 1776 hr, 1800 hr, 1824 hr, 1848 hr, 1872 hr, 1896 hr, 1920 hr, 1944 hr, 1968 hr, 1992 hr, 2016 hr, 2040 hr, 2064 hr, 2088 hr, 2112 hr, 2136 hr, 2160 hr, 2184 hr, 2208 hr, 2232 hr, 2256 hr, 2280 hr, 2304 hr, 2328 hr, 2352 hr, 2376 hr, 2400 hr, 2424 hr, 2448 hr, 2472 hr, 2496 hr, 2520 hr, 2544 hr, 2568 hr, 2592 hr, 2616 hr, 2640 hr, 2664 hr, 2688 hr, 2712 hr, 2736 hr, 2760 hr, 2784 hr, 2808 hr, 2832 hr, 2856 hr, 2880 hr, 2904 hr, 2928 hr, 2952 hr, 2976 hr, 3000 hr, 3024 hr, 3048 hr, 3072 hr, 3096 hr, 3120 hr, 3144 hr, 3168 hr, 3192 hr, 3216 hr, 3240 hr, 3264 hr, 3288 hr, 3312 hr, 3336 hr, 3360 hr, 3384 hr, 3408 hr, 3432 hr, 3456 hr, 3480 hr, 3504 hr, 3528 hr, 3552 hr, 3576 hr, 3600 hr, 3624 hr, 3648 hr, 3672 hr, 3696 hr, 3720 hr, 3744 hr, 3768 hr, 3792 hr, 3816 hr, 3840 hr, 3864 hr, 3888 hr, 3912 hr, 3936 hr, 3960 hr, 3984 hr, 4008 hr, 4032 hr, 4056 hr, 4080 hr, 4104 hr, 4128 hr, 4152 hr, 4176 hr, 4200 hr, 4224 hr, 4248 hr, 4272 hr, 4296 hr, 4320 hr, 4344 hr, 4368 hr, 4392 hr, 4416 hr, 4440 hr, 4464 hr, 4488 hr, 4512 hr, 4536 hr, 4560 hr, 4584 hr, 4608 hr, 4632 hr, 4656 hr, 4680 hr, 4704 hr, 4728 hr, 4752 hr, 4776 hr, 4800 hr, 4824 hr, 4848 hr, 4872 hr, 4896 hr, 4920 hr, 4944 hr, 4968 hr, 4992 hr, 5016 hr, 5040 hr, 5064 hr, 5088 hr, 5112 hr, 5136 hr, 5160 hr, 5184 hr, 5208 hr, 5232 hr, 5256 hr, 5280 hr, 5304 hr, 5328 hr, 5352 hr, 5376 hr, 5400 hr, 5424 hr, 5448 hr, 5472 hr, 5496 hr, 5520 hr, 5544 hr, 5568 hr, 5592 hr, 5616 hr, 5640 hr, 5664 hr, 5688 hr, 5712 hr, 5736 hr, 5760 hr, 5784 hr, 5808 hr, 5832 hr, 5856 hr, 5880 hr, 5904 hr, 5928 hr, 5952 hr, 5976 hr, 6000 hr, 6024 hr, 6048 hr, 6072 hr, 6096 hr, 6120 hr, 6144 hr, 6168 hr, 6192 hr, 6216 hr, 6240 hr, 6264 hr, 6288 hr, 6312 hr, 6336 hr, 6360 hr, 6384 hr, 6408 hr, 6432 hr, 6456 hr, 6480 hr, 6504 hr, 6528 hr, 6552 hr, 6576 hr, 6600 hr, 6624 hr, 6648 hr, 6672 hr, 6696 hr, 6720 hr, 6744 hr, 6768 hr, 6792 hr, 6816 hr, 6840 hr, 6864 hr, 6888 hr, 6912 hr, 6936 hr, 6960 hr, 6984 hr, 7008 hr, 7032 hr, 7056 hr, 7080 hr, 7104 hr, 7128 hr, 7152 hr, 7176 hr, 7200 hr, 7224 hr, 7248 hr, 7272 hr, 7296 hr, 7320 hr, 7344 hr, 7368 hr, 7392 hr, 7416 hr, 7440 hr, 7464 hr, 7488 hr, 7512 hr, 7536 hr, 7560 hr, 7584 hr, 7608 hr, 7632 hr, 7656 hr, 7680 hr, 7704 hr, 7728 hr, 7752 hr, 7776 hr, 7800 hr, 7824 hr, 7848 hr, 7872 hr, 7896 hr, 7920 hr, 7944 hr, 7968 hr, 7992 hr, 8016 hr, 8040 hr, 8064 hr, 8088 hr, 8112 hr, 8136 hr, 8160 hr, 8184 hr, 8208 hr, 8232 hr, 8256 hr, 8280 hr, 8304 hr, 8328 hr, 8352 hr, 8376 hr, 8400 hr, 8424 hr, 8448 hr, 8472 hr, 8496 hr, 8520 hr, 8544 hr, 8568 hr, 8592 hr, 8616 hr, 8640 hr, 8664 hr, 8688 hr, 8712 hr, 8736 hr, 8760 hr, 8784 hr, 8808 hr, 8832 hr, 8856 hr, 8880 hr, 8904 hr, 8928 hr, 8952 hr, 8976 hr, 9000 hr, 9024 hr, 9048 hr, 9072 hr, 9096 hr, 9120 hr, 9144 hr, 9168 hr, 9192 hr, 9216 hr, 9240 hr, 9264 hr, 9288 hr, 9312 hr, 9336 hr, 9360 hr, 9384 hr, 9408 hr, 9432 hr, 9456 hr, 9480 hr, 9504 hr, 9528 hr, 9552 hr, 9576 hr, 9600 hr, 9624 hr, 9648 hr, 9672 hr, 9696 hr, 9720 hr, 9744 hr, 9768 hr, 9792 hr, 9816 hr, 9840 hr, 9864 hr, 9888 hr, 9912 hr, 9936 hr, 9960 hr, 9984 hr, 10000 hr.	a) 2 and 25 hr after 20 mg oral. b) 1 hr, 10 hr, 24 hr, 48 hr, 72 hr, 96 hr, 120 hr, 144 hr, 168 hr, 192 hr, 216 hr, 240 hr, 264 hr, 288 hr, 312 hr, 336 hr, 360 hr, 384 hr, 408 hr, 432 hr, 456 hr, 480 hr, 504 hr, 528 hr, 552 hr, 576 hr, 600 hr, 624 hr, 648 hr, 672 hr, 696 hr, 720 hr, 744 hr, 768 hr, 792 hr, 816 hr, 840 hr, 864 hr, 888 hr, 912 hr, 936 hr, 960 hr, 984 hr, 1008 hr, 1032 hr, 1056 hr, 1080 hr, 1104 hr, 1128 hr, 1152 hr, 1176 hr, 1200 hr, 1224 hr, 1248 hr, 1272 hr, 1296 hr, 1320 hr, 1344 hr, 1368 hr, 1392 hr, 1416 hr, 1440 hr, 1464 hr, 1488 hr, 1512 hr, 1536 hr, 1560 hr, 1584 hr, 1608 hr, 1632 hr, 1656 hr, 1680 hr, 1704 hr, 1728 hr, 1752 hr, 1776 hr, 1800 hr, 1824 hr, 1848 hr, 1872 hr, 1896 hr, 1920 hr, 1944 hr, 1968 hr, 1992 hr, 2016 hr, 2040 hr, 2064 hr, 2088 hr, 2112 hr, 2136 hr, 2160 hr, 2184 hr, 2208 hr, 2232 hr, 2256 hr, 2280 hr, 2304 hr, 2328 hr, 2352 hr, 2376 hr, 2400 hr, 2424 hr, 2448 hr, 2472 hr, 2496 hr, 2520 hr, 2544 hr, 2568 hr, 2592 hr, 2616 hr, 2640 hr, 2664 hr, 2688 hr, 2712 hr, 2736 hr, 2760 hr, 2784 hr, 2808 hr, 2832 hr, 2856 hr, 2880 hr, 2904 hr, 2928 hr, 2952 hr, 2976 hr, 3000 hr, 3024 hr, 3048 hr, 3072 hr, 3096 hr, 3120 hr, 3

Glutarimide, 2-ethyl-2-phenyl- (9 CI)
2,6-piperidinedione, 3-ethyl-3-phenyl- (9 CI)
77-21-4
C13-N15-W-02
CAS 77-21-4, MP 41 form 89 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7200 Blood		GC	1	Not applicable	0.59 ug/100 ml	Drug induced fatality. Phenytoin, 0.1 mg/100 ml, also found. Autopsy, 1975-76, Los Angeles County, CA CALIFORNIA; AUTOPSIES; CASE HISTORIES; BLOOD; DRUG ABUSE; DRUGS; FORENSIC MEDICINE; ALCOHOLS	Sakuma, G.B. Koguchi, T.T. Giessemer, E.C. 1979 Journal of Analytical Toxicology 1:137-142
7201 Blood, plasma	Ingestion	GC	1	a) 12.1-13.8 ug/ml b) 16.3-22.7 ug/ml	a) Not given b) Not given	a) 7.5 and 21 hr after 6 g b) 7.5 and 18 hr after 6 g. Final measurement 20.8 ug/ml at 21 hr. Metabolite (8-hydroxy-2-ethyl-2-phenylglutaral) c) Range of means In case for 30 hr AUTOPSIES; BLOOD PLASMA; SEIZURE; KIDNEYS; LIVER; DRUG ABUSE; DRUGS; PYROLYTICS; IDENTIFIERS; METABOLITES	Hansen, A.H. Pletcher, L.J. 1976 Clinical Chemistry 20(2):216-242

CURT PAGE

glutaraldehyde, 2-ethyl-2-phenyl- (8 CI)
 2,6-Piperidinedione, 3-ethyl-3-phenyl- (9 CI)
 77-21-4
 C13-H15-N-O2
 MW 217.26, BP 41 Torr @ 84 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	PEARL	GENERAL INFORMATION	REFERENCE
7202 Blood, plasma		GC	1	a) Not applicable b) Not applicable c) Not applicable	a) 14 ug/L b) 11 ug/L c) 8 ug/L	a) 24 hr after a laceration, b) 16 hr later, at beginning of charcoal resorption c) After 11.5 hr resorption Dose unknown 73 yr old Anoxemia, hypotensive, hypoleukic, ataxic, hypoxic UNITED KINGDOM; ADOLESCENTS; ADULTS; CASE HISTORY; BLOOD PLASMA; DRUG ABUSE; DRUGS; IDENTIFICATION; MISC SUBSTANCES; IDENTIFICATION	Baptist, S. Toomey, P. Hollister, A. Hollister, M. Hollister, B. 1962 Archives of Toxicology 89:103-110
7203 Blood, serum		GC	8	a) 4-15 ug/L b) 7-72 ug/L	a) Not given b) Not given	a) At time of arrival from coma 40-82.5 hr following overdose b) Same as a). Three associated complaints relating to: glaucoma on GC column Doses not reported BLOOD SERUM; URINARY EXCRETION; PLASMA; DRUGS; IDENTIFICATION; MISC SUBSTANCES; IDENTIFICATION	Gold, G. Tassoni, E. Fitzell, W. Mathew, G. 1978 Clinical Chemistry 20(2):197-198
7208 Brain		GC	a) 1 b) 1	a) 71-72 ug/g b) 5 ug/g c) 5-7 ug/g d) 43-46 ug/g	a) 72 ug/g b) 5 ug/g c) 6 ug/g d) 44 ug/g	a) 2 autopsy samples b) Same as a). Ataxic (4-12 hr) - 2-ethyl-2-phenyl-1,3-oxazolidinone c) 14-85 d) 2 autopsy samples e) Same as c). Ataxic (18-40) Dose unknown AUTOPSY; BLOOD PLASMA FIBERS LIVES DRUG ABUSE DETOX SYMPTOMS IDENTIFICATION IDENTIFICATION	Hansen, A.F. Pascetti, L.J. 1978 Clinical Chemistry 20(2):246-247
7205 Cerebrospinal fluid		GC	6	a) 2-6 ug/L b) 1-19 ug/L	a) Not given b) Not given	a) At time of arrival from coma following drug overdose b) Same as a). Associated complaint relating to: glaucoma on GC column Doses not reported Duration of coma 18-82.5 hr BLOOD SERUM; URINARY EXCRETION; PLASMA; DRUGS; IDENTIFICATION; MISC SUBSTANCES; IDENTIFICATION	Gold, G. Tassoni, E. Fitzell, W. Mathew, G. 1978 Clinical Chemistry 20(2):197-198
7206 Kidney		GC	1	a) 2-11 ug/g b) 14-35 ug/g	a) 10 ug/g b) 17 ug/g	a) 2 autopsy samples b) Same as a). Ataxic (4-12 hr) - 2-ethyl-2-phenyl-1,3-oxazolidinone c) Same as a). Ataxic Dose unknown AUTOPSY; BLOOD PLASMA; BLOOD; DRUGS; IDENTIFICATION; MISC SUBSTANCES; IDENTIFICATION; MISC SUBSTANCES; IDENTIFICATION	Hansen, A.F. Pascetti, L.J. 1978 Clinical Chemistry 20(2):246-247

(NEXT PAGE)

glutarimide, 2-ethyl-2-phenyl- (9 CI)
 7,7-diperidinedione, 3-ethyl-3-phenyl- (9 CI)
 C10-R15-M-02
 MW 217.26, BP 41 form 88 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUBSTANCE OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7209 Liver		GC	1	a) 166-214 ug/g b) 8-9 ug/g	a) 190 ug/g b) 8 ug/g	a) 2 autopsy samples b) Case as al. metabolite (8-hydroxy-2-ethyl-2-phenylglutarimide) w) Dose unknown AUTOPSIES: BLOOD, PLASMA, URINE; FIBROSIS: LIVER; DRUG ABUSE; DRUGS; SYMPTOMS: SEDATIVES; METABOLITES	Hansen, A.P., Pischer, L.J., 1978 Clinical Chemistry 20 (2): 236-242
7208 Liver		GC UV	1	a) Not applicable b) Not applicable	a) 2.1 ug/100g b) 6.4 ug/100g	a) Solvent extraction method b) RAD-2 resin bag extraction method Fatal overdose case Poland POLAND: BLOOD; URINE; LIVER; DRUG ABUSE; DRUGS; MEASUREMENT METHODS	Boquist, M., Gierz, J., Bialke, J., 1978b Forensic Science International 12:71-82

Guanidine, N-cyano-N'-methyl-N'-[2-((5-methyl-1H-imidazol-4-yl)methyl)thio]ethyl]-
 5481-61-9
 C10-R16-M6-5
 MW 252.36

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUBSTANCE OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7209 Blood, Plasma	Ingestion	HPLC	8	0.80-1.75 ug/ml	Not given	Range of mean steady state levels after 300 mg at/day for 7 days. AUC 800-950 ug/ml/min Healthy 21-42 yr olds. Cimetidine reduced liver blood flow and metabolism of cimetidine. Pulse rates at rest also reduced. ADULTS: BLOOD PLASMA; DRUG INTERACTION: DRUG THERAPY; DRUGS	Feely, J., Wilkinson, G.P., Wood, A.J.F., 1981 New England Journal of Medicine 304(12):692-695

Heparin
9005-89-6

EXACT COMPOSITION UNKNOWN OR UNDETERMINED
MW 5000-20,000

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7210 Blood, plasma	Injection	Photometry	a) 6 b) 8 c) 7 d) 10	a) Not given b) Not given c) Not given d) Not given	a) 2.00 $\pm$ 0.33 b) 1.56 $\pm$ 0.68 c) 1.52 $\pm$ 0.57 d) 1.47 $\pm$ 0.58 e) 1.47 $\pm$ 0.58 f) 1.47 $\pm$ 0.58	a) Healthy adults, 75 U/kg, IV b) Infants, 33-36 wk gestation, 100 c) Infants, 29-32 wk gestation, 100 d) Infants, 25-28 wk gestation, 100 e) Initial level after bolus infusion as Na salt f) Initial level after bolus infusion as Na salt g) Clearance rate significantly greater in infants than in adults. h) Healthy adults and newborns, wt 320-680 g, 3 small for gestational age, 2 males, 7 with transient tachypnea, 1 with hyaline membrane disease, 1 with pneumonia, 2 infants of diabetic mothers. i) Adults; newborns; blood plasma; anticoagulants; drugs; measurement methods	McDonald, W.N. Jacobson, L.J. Hay, W.W., Jr. Rothman, W.E. Pediatric Research 15: 1015-1018

Hydantoin, 5,5-diphenyl- (9 CI)
2,6-bis[4-(2-chloro-1-methyl-2-oxoethyl)-5-phenyl]- (9 CI)

57-81-0
C15-H12-Cl2-O2
MW 252.26, MP 265-280 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7211 Blood	GC TLC UV GC/MS Enzymatic		2	0-26.0 mg/l	Not given	Dose probably less than toxic amount Results from a laboratory receiving identical samples for toxic screen overdose drugs identified in 508-79X Laboratories agreed on 6 of 23 items reported present in serum of 20 patients Levels were variable and appeared imprecise. Probable drug overdose patients, Boston, MA MASSACHUSETTS: BLOOD: ANALGESICS; ANTICONVULSANTS: ANTIDEPRESSANTS; AGENTS: ANTIPTHERGICS: DRUG ABUSE; DEDRS: HYPNOTICS: NARCOTICS; SEPARATION: TRANSDISSEPSIS: COMPARATIVE EVALUATION: ALCOHOLS: MEASUREMENT METHODS	Ingelfinger, J.A. Isakson, G. Shine, D. Costello, C.E. Volman, P. Clinical Pharmacology and Therapeutics 29(5):570-575
7212 Blood, plasma	GC		1	97-15 mg/l	Not given	a and 11 days after oral intake of 100-mg clobazam tablets, 10-219 mg clobazam tablets. Initial measurement, 56.5 mg/l about 90 min after overdose. Icteric, atoxic and dysarthric in Stage II coma. Borderline intracranial conduction delay and a sinus tachycardia (11) beat per min. SUICIDE; BLOOD PLASMA; ANTICONVULSANTS; DRUG ABUSE; DRUGS	Matzke, S.B. Lloyd, J.C. Graham, R.J. 1981 Journal of Clinical Pharmacology 21:92-99

(NEXT PAGE)

(Continued)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7213 Blood, plasma	Injection Ingestion	Colorimetry Enzymatic	11	a) 3.3-21.9 ug/l b) 3.8-22.7 ug/l c) 4.2-25.4 ug/l d) 3.6-28.9 ug/l	a) 9.6 ug/l b) 11.9 ug/l c) 8.9 ug/l d) 10.2 ug/l	a) Days 4-6 of 20 day study period, ethanol ingestion phase (500-800 ug/l blood alcohol level) b) Days 7-9, ethanol withdrawal phase c) Days 10-12, ethanol withdrawal phase d) Days 18-20, ethanol withdrawal phase Fasting levels Phenytoin dose, 300 mg TID and 300 mg QID followed by 150 mg oral or IV every 12 hr, 20 days. Alcoholic men with history of withdrawal seizures. Mean alcohol consumption of 470 or 184 g/day, 6-30 yr. Steady drinking 1 wk before admission. AGENTS: ANTICONVULSANTS; DRUG THERAPY: DRUGS; ALCOHOLS	Sandor, P. Sellers, S. K. Dabrell, K. Dabell, V. 1981 Clinical Pharmacology and Therapeutics 30(3):390-397
7214 Blood, plasma	Ingestion	GC	a) 1 b) 1 c) 1 d) 1 e) 1 f) 1	a) Not applicable b) Not applicable c) Not applicable d) 7-1.5 ug/ml e) 4-6.3 ug/ml f) 4-3.3 ug/ml	a) 6-6 ug/ml b) 4-3 ug/ml c) 6.5 ug/ml d) Not given e) Not given f) Not given	a) Mother, at delivery, dose 200 mg b) Mother, at delivery, dose 200 mg c) Mother, at delivery, dose 200 mg d) Infant of a), 12 hr-4 day after parturition, cord blood level 6.2 ug/ml e) Infant of b), 18-36 hr after parturition, cord blood level 3.9 ug/ml f) Infant of c), 21-48 hr after parturition, cord blood level 4.8 ug/ml Daily dose during pregnancy with last dose 4.9-12.5 hr before delivery Temporary increase 1st day postpartum in 2 of 3 newborns d)-f) estimated from graph Epileptic mothers and their full-term male infants, Tokyo Jaundice in two newborns JAPAN: ADULTS: SENSORS: CENTRAL NERVOUS SYSTEM DISEASES; BLOOD PLASMA: ANTICONVULSANTS; DRUGS: HYPNOTICS; SEDATIVES; PREGNANCY	Ishizaki, T. Tokochi, K. Chiba, K. Furuchi, T. Wagatsuma, T. 1981 Pediatric Pharmacology 1:291-303
7215 Blood, plasma	Ingestion	GC/MS	a-c) 1 d-f) 1	a) 4.3498-0.0178 ug/ml b) 0.0602-0.0121 ug/ml c) 1.3658-0.0212 ug/ml d) 0.1200-0.0165 ug/ml e) 2.1725-0.0359 ug/ml f) 2.1725-0.0359 ug/ml	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) Parent compound (1 subject), 8 and 96 hr after dose, 3.9216 ug/ml at 1 hr b) Metabolite, 5-(4-hydroxyphenyl)-5-phenylhydantoin (IV), 10 and 48 hr after dose, 0.0318 ug/ml at 1 hr c) Metabolite, glucuronide of IV, 8 and 46 hr after dose, 0.7216 ug/ml at 1 hr d) Same as a), second study (1 subject), 8 and 96 hr after dose, 2.1200 ug/ml at 1 hr e) Same as b), 10 and 72 hr after dose, 0.0484 ug/ml at 1 hr f) Same as c), 10 and 96 hr after dose, 0.5195 ug/ml at 1 hr Dose 250 mg Healthy 25 and 36 yr old BLOOD PLASMA: SALIVA: ANTIARRHYTHMIC AGENTS: ANTICONVULSANTS; DRUGS: METABOLITES	Baba, S. Goromaru, Y. Yamazaki, K. Kaseya, Y. 1980 Journal of Pharmaceutical Sciences 69(11):1300-1307

PAGE

Hydrocortisone, 5,5-diphenyl- (9 CI)
 2,4-lisdiazolidinedione, 5,5-diphenyl- (9 CI)
 57-a-1-0
 C16-R12-R2-C2
 MW 252.26, MP 295-298 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7216 Blood, serum	Injection Ingestion	RIA	1	69-9 ug/ml	Not applicable	1) and 22 days after birth Initial measurement on day 7, 49.1 ug/ml. 10 ug/kg, IV loading dose given on day 1, followed by 5 ug every 12 hr IV and then oral, day 5-7. Phenobarbital also administered Infant, wt 1,885 g, suffered seizures 2nd day after birth and treated with phenytoin and phenobarbital lethargy, hypotonicity, cyanosis, neurologic abnormalities, sinus bradycardia, cardiac arrhythmia, absence of reflexes WETBORN: BLOOD SERUM; ANTICONTACTANTS: DRUG THERAPY; DRUGS	Wickham, S. Epstein, S. Kaufman, S. Journal of Pediatrics 1960: 106-109
7217 Saliva	Ingestion	GC/MS	2	a) 0.9-0.005 ug/ml b) 1.5-0.003 ug/ml	a) Not given b) Not given	a) Initial measurement at 36 hr after 250 mg (subject 1) b) Initial measurement at 36 hr after 250 mg (subject 2) Estimated from graph Neonate 25 and 36 yr old BLOOD PLASMA; SALIVA; ANTIDEPRESSANT; ANTICONTACTANTS: DRUGS; REFERENCES	Reba, J. Scheraga, T. Vasquez, R. Kasuya, T. 1980 Journal of Pharmaceutical Sciences 69(8): 1100-1102

Hydrocortisone, 5,5-diphenyl- (9 CI)
 Benzeneacetic acid, 3-benzoyl-alpha-methyl- (9 CI)
 22071-15-4
 C16-R14-O3
 MW 254.29, MP 94 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7218 Blood, plasma	Ingestion	HPLC	12	a) 1.0-8.8 ug/ml b) 2.7-7.9 ug/ml c) 5.9-11.0 ug/ml	a) 4.8 ug/ml b) 5.0 ug/ml c) 7.6 ug/ml	a) 30-178 min (mean 71.7) after 50 mg as commercial capsule b) 30-178 min (mean 71.8) after 50 mg as capsule with no filler c) 30-178 min (mean 71.8) after 50 mg in solution Peak 4.8 significant difference in AUC 24-30 yr olds, wt 54-97 kg BLOOD PLASMA; ANALGESIC; ANTIDEPRESSANT AGENTS; ANTICONTACTANTS: DRUGS; WETBORN: DRUG THERAPY; DRUGS; REFERENCES	Opton, P.A. William, W.L. Tennant, T.A. Bennett, J.B. Wickham, S. European Journal of Clinical Pharmacology 20:127-133

Hydroquinidine (8 CI)
 Cinchonine-9-ol, 10, 11-dihydro-6'-ethoxy-, (9S) - (9 CI)
 1435-55-8
 C20-H26-N2-O2
 MW 326.40, MP 169 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7219 Blood, Plasma	Ingestion		1	1.9-0 ug/ml	Not given	Hydroquinidine, 6-19.4 hr after 1 g Asoquine (590 mg Dihydroquinidine, 410 mg Anethal) Estimated from graph 16 yr old Headache, vertigo, sleepiness, photophobia, sinus tachycardia (125 bpm) at admission 6 hr after dose. EFFECTS: ADOLESCENTS; CASE HISTORIES; BLOOD PLASMA; URINE; ANTIARRHYTHMIC AGENTS; DYSR ABUSE; DRUGS; LAVAGE	Lema, M. Devos, D.M. Reynaert, M. 1981 Clinical Toxicology 18(6):559-562
7220 Urine	Ingestion		1	Not given	230 mg	Total hydroquinidine recovered 26 hr after 1 g Asoquine (590 mg Dihydroquinidine, 410 mg Anethal) 15% recovered at 6 hr Purposely given, 14, to increase urine output 16 yr old Headache, vertigo, sleepiness, photophobia, sinus tachycardia (125 bpm) at admission 6 hr after dose. EFFECTS: ADOLESCENTS; CASE HISTORIES; BLOOD PLASMA; URINE; ANTIARRHYTHMIC AGENTS; DYSR ABUSE; DRUGS; LAVAGE	Lema, M. Devos, D.M. Reynaert, M. 1981 Clinical Toxicology 18(6):559-562

Talidomide (2, 3, 5, 6-tetrahydro-6-phenyl, (5S) -
 18769-73-4
 C13-H17-N2-S
 MW 204.31, MP 87-89 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7221 Blood, Plasma	Ingestion	GC	1	0.45-0.02 ug/ml		8 and 24 hr after 150 mg, orally. ANTHELMINTIC; BLOOD PLASMA; URINE THERAPY; DRUGS; SEIZURE; SEIZURES; EFFECTS	Boestenhorst, S. Nichols, L. Reynolds, J. 1981 Journal of Chromatography 226:25-32

Isidazole-1-ethanol, alpha-(methoxyethyl)-2-nitro- (8 CI)
 13551-87-6
 C7-H11-N3-O4
 MW 201.11

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7222 Blood, plasma	Ingestion	HPLC	a) 10 b) 1	a) 30-8 ug/ml b) 1-45 ug/ml	a) Not given b) Not applicable	a) Measurements at 2 hr and 20 hr after 1 g/kg. Initial measurement 25 ug/ml at 30 min. b) 10 min and 1 hr after 1 g/kg. Final measurement 43 ug/ml at 8.7 hr. Normalized doses. Estimated from graph. Patients with carcinoma of melanoma. ADULTS; CARCINOMAS; MELANOMAS; BLOOD PLASMA; PHARMACOKINETICS; DRUGS; GLANDS; DRUG THERAPY; DRUGS; COMPARATIVE EVALUATIONS; CHEMOTHERAPY	Diache, S. Sander, S.I. Haley, J. Haley, J. Bennett, M.B. Stratford, M.P.I. Nicholson, A.I. 1981 British Journal of Cancer 43:344-349
7223 Salivary gland	Ingestion	HPLC	1	3-42 ug/g	Not applicable	1 and 0.3 hr after normalized dose of 1 g/kg. Estimated from graph. Biopsies of tumor. Patient with breast carcinoma. ADULTS; CARCINOMAS; MELANOMAS; BLOOD PLASMA; PHARMACOKINETICS; DRUGS; GLANDS; DRUG THERAPY; DRUGS; COMPARATIVE EVALUATIONS; CHEMOTHERAPY	Diache, S. Sander, S.I. Haley, P.J. Haley, J. Bennett, M.B. Stratford, M.P.I. Nicholson, A.I. 1981 British Journal of Cancer 43:344-349

Isidazole-1-ethanol, 2-methyl-5-nitro- (9 CI)
 443-48-1
 C6-H9-N3-O3
 MW 171.16, MP 158-160 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7224 Urine	Ingestion	HPLC	5	a) 4-91 mg b) 1.7-15.8 mg c) 0.8-0.7 mg	a) Not given b) Not given c) Not given	a) Metronidazole b) M (1-2-methyl-5-nitro-1,4-diazepine-3-carboxamide) (metabolite) c) Acetamide (metabolite) 24 hr excretion during a 760 mg/24 hr metronidazole dose regimen. 20-41 yr old patients. MASCULINES; ADULTS; IMPURITIES; PHARMACOKINETICS; DRUG THERAPY; IN VIVO ANALYSES; PHARMACOKINETICS; DRUGS	Boch, P.L. Sander, S.I. Haley, J. Haley, J. Goldman, P. 1981 Science 211:498-499

Iron
7439-89-6

mp 55.0-57.0°C (pure), 1000-1100°C (case), 1500°C (recryst), 1300°C (slow), bp 3100°C, η_{sp}/c 1.05 dl/g at 170°C, 10.80 dl/g at 200°C.

TISSUE	EXPOSURE SOURCE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7220 Blood	Ingestion	Radiometry	32	a) 5.6-19.3% of dose b) 1.2-3.8% of dose c) 19.2-90.9% of dose d) 2.6-4.3% of dose Geometric	a) Not given b) Not given c) Not given d) Not given	a) Standard meal, 8.1 mg Fe b) Semisynthetic meal, 8.1 mg Fe c) Reference dose, 3 mg Fe as ferrous sulfate d) Semisynthetic meal with 25-100 g Fe Range of means Healthy 18-30 yr old FPGD; IRON; RETALS; DIETS; FPGDS	Cook, J.D. Rosen, Z.B. 1975 American Journal of Clinical Nutrition 26(1):1289-1295
7229 Blood	Ingestion	Radiometry	27	a) 1.7-31.3% of dose b) 1.2-28.5% of dose c) 1.2-28.9% of dose d) 1.2-28.9% of dose e) 0.6-4.7% of dose f) 0.2-1.3% of dose g) 0.3-25.0% of dose h) 0.6-17.2% of dose	a) 3.6% of dose b) 9.6% of dose c) 5.5% of dose d) 5.7% of dose e) 4.3% of dose f) 1.6% of dose g) 2.3% of dose h) 2.0% of dose Geometric	a) Semisynthetic meal (8.1 mg Fe) (3 subjects) b) As in a) but no protein (3 subjects) c) As in a) but no carbohydrate (3 subjects) d) As in a) but no fat (3 subjects) e) Semisynthetic meal (8.1 mg Fe) (4 subjects) f) As in e) but double protein (3 subjects) g) As in e) but double carbohydrate (3 subjects) h) As in e) but double fat (3 subjects) Healthy 18-36 yr olds FPGD; IRON; RETALS; DIETS; FPGDS	Rosen, Z.B. Cook, J.D. 1979 American Journal of Clinical Nutrition 32(8):894-898
7230 Blood	Ingestion	Radiometry	37	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 0.33 $\pm$ 0.05% of dose b) 0.51 $\pm$ 0.11% of dose c) 1.03 $\pm$ 0.15% of dose d) 1.36 $\pm$ 0.30% of dose e) 1.37 $\pm$ 0.25% of dose f) 1.93 $\pm$ 0.13% of dose g) 1.86 $\pm$ 0.17% of dose h) 1.86 $\pm$ 0.43% of dose	a) Basal food (10.1 mg Fe, including 3.8 mg ferrous sulfate added as radioactive tracer) (7 subjects) b) Basal food (10.1 mg Fe, including 3.8 mg ferrous sulfate added) (7 subjects) c) Same as a), plus fruit (7 subjects) d) Same as b), plus fruit (7 subjects) e) Same as a), plus meat (7 subjects) f) Same as b), plus meat (7 subjects) g) Same as a), plus fruit and meat (7 subjects) h) Same as b), plus fruit and meat (7 subjects) Healthy 18-30 yr olds, Thailand TREATMENT; ADMINISTRATION; FPGD; IRON; RETALS; DIETS; FPGDS	Hallberg, L. Gibb, L. Swahn, F. Pietikangas, E. 1974 American Journal of Clinical Nutrition 27(1):124-136
7231 Blood, plasma	Ingestion	RAS	a) 26 b) 25 c) 25	a) Not given b) Not given c) Not given	a) 104 μ g/100 ml b) 121 μ g/100 ml c) 92 μ g/100 ml	a) 8 mo after 20 mg Zn and 20 mg Fe per day after 20 mg Fe/day b) 18 mo after 20 mg Fe/day c) Placebo 6-12 yr olds, Iran Zn and Fe supplementation did not stimulate growth or bone development, but Fe alone did. ZINC; CATIONIC; BLOOD PLASMA; IRON; RETALS; ZINC; DIETS; SPECIAL AREAS	Malik, M. Saidi, J.D. Fakhremanesh, M. Soudani, M.A. Fard, M.S. Fakhremanesh, J.A. 1975 American Journal of Clinical Nutrition 28(7):1213-1225

TISSUE	DIET/DIETARY ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7232 Blood, serum	Ingestion	Colorimetry	a) 11 b) 40 c) 51	a) Not given b) Not given c) Not given	a) 135 μ g - 62 μ g/dl b) 107 μ g - 31 μ g/dl c) 118 μ g - 47 μ g/dl	a) With supplements b) Without supplements c) Combined a) and b) Seventh-Day Adventist Canadian Women, mean age 52.9 μ g - 15.3 μ g, vegetarian 19 μ g - 10 μ g. ADULTS: BLOOD SERUM: NAIB; FPOOLICINS; IRON; ZINC; DIETS	Anderson, S.A. Gibson, S.S. Sabry, J.H. 1981 American Journal of Clinical Nutrition 38:1002-1006
7233 Blood, serum	Ingestion		a) 10 b) 20 c) 20	a) 74-103 μ g/100 ml b) 74-109 μ g/100 ml c) 83-113 μ g/100 ml	a) 90 μ g/100 ml b) 94 μ g/100 ml c) 96 μ g/100 ml	a) Controls, non-nutrient supplement plus lactose containing placebo capsule b) High protein-vitamin liquid supplement plus lactose (100 g protein, 100 g lactose, 6 days/mt c) Supplement and mineral capsule as in b) plus 40 μ g Zn as carbonate 6 days/mt) Range of means over 20 months No supplement during a no summer vacation Significantly increased ht, wt, and bone ages in boys receiving 3m during trial 12 mo of supplementation. Significantly increased ht levels in phase throughout study. Serum Fe rose gradually during study, but rise in h and c) (iron supplemented) did not exceed that of a) 13 yr old, prepubertal, village schoolboys, southern Iran IRAN: ADOLESCENTS: NUTRITIONAL DEFICIENCIES: BLOOD PLASMA: BLOOD SERUM: FERRITIN: CALCIUM; IRON; PHOSPHORUS; ZINC; DIETS	Konaghy, S.A. Paisbols, J.J. Mansouri, A. Gavali, P. Hassani, F. Hassani, J.A. 1978 American Journal of Clinical Nutrition 27(2):112-121
7234 Blood, serum	Ingestion		247	a) 110-50 μ g/100 ml b) 110-60 μ g/100 ml	a) Not given b) Not given	a) Infant formula fortified with 1.2 mg/l b) Infant formula fortified with 9.4 mg/l Range of means, from age 1-2 mo to age 6, estimated from graph (expressed as μ g) Healthy infants, birth wt >2.5 kg, New South Wales AUSTRALIA: INFANTS: BLOOD SERUM; IRON; RETALS: DIETS	Lesell, A.T. Lorric, V.A. Nesbitt, W.S. 1975 Medical Journal of Australia 1(10):881-883
7235 Blood, serum			2	4750-8000 μ mol/l	Not given	Peaks, immediately after 1 or 2 g 68 and 76 yr old anemics BLOOD SERUM: DRUG THERAPY: DRUGS; IRON; RETALS; ANEMIA	Fluando, R.W. Lloyd, J.V. Nadali, Z. Kieker, R.J. 1981 Annals of Clinical Biochemistry 18:215-217
7236 Body	Ingestion	Radiometry	37	20.0-28.8% of dose	Not given	3.7 μ g Fe as ferrous sulfate with 30 mg ascorbic acid, daily for a days Healthy 18-30 yr olds, Thailand THAILAND: ADULTS: BLOOD; RCV: IRON; RETALS: DIETS; FOODS	Hallberg, L. Gertler, V. Swank, R. 1978 American Journal of Clinical Nutrition 27(8):826-836

Isopropylcotic acid, 1-methyl-4-phenyl-, ethyl ester (9 CI)
 4-piperidinecarboxylic acid, 1-methyl-4-phenyl-, ethyl ester (9 CI)
 C5-H21-N-O2
 MW 247.35, MP 186-189 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7237 Amniotic fluid	Injection	GC	a) 3 b) 2 c) 2 d) 2 e) 2 f) 3 g) 7 h) 1 i) 3 j) 1 k) 2 l) 2	a) 0.01-0.02 ug/ml b) Not applicable c) 0.05-0.13 ug/ml d) 0.01-0.13 ug/ml e) 0.03-0.05 ug/ml f) 0.02-0.06 ug/ml g) 0.01-0.09 ug/ml h) Not applicable i) 0.02-0.09 ug/ml j) Not applicable k) 0.05-0.07 ug/ml l) 0.03-0.07 ug/ml	a) Not given b) 0.02 ug/ml c) Not given d) Not given e) Not given f) Not given g) Not given h) 0.02 ug/ml i) Not given j) 0.04 ug/ml k) Not given l) Not given	a) 30 min b) 35 min c) 40 min d) 45 min e) 50 min f) 55 min g) 60 min h) 70 min i) 75 min j) 100 min k) 120 min l) 155 min Times after 100 ug IM. Not detected at 16-20 min. Levels in blood plasma also measured. Women undergoing abortions at 16-20 wk of pregnancy, NY NEW YORK: AMNIOTIC FLUID; BLOOD PLASMA; ANALGESICS; DRUGS; PREGNANCY	Szeto, H.H. Zervoudakis, I.A. Cederqvist, L.L. Inturrisi, C.P. 1978 Obstetrics and Gynecology 52(1):59-62
7238 Blood	Injection		a) 9 b) 9 c) 9	a) 0.20-0.54 ug/ml b) 0.22-0.59 ug/ml c) 0.27-0.70 ug/ml	a) 0.41 +/- 0.17 ug/ml b) 0.42 +/- 0.17 ug/ml c) 0.46 +/- 0.18 ug/ml	a) Severe pain present b) Moderate pain present c) Moderate analgesic levels Done 75 or 100 mg at minimum of once every 1.5 hr Range of means Postoperative patients, ages 25-43 Yr. wt 65-93 kg, Australia ADULTS; BLOOD; ANALGESICS; DRUGS; AUSTRALIA	Austin, R.L. Stapleton, J.V. Cederqvist, L.L. 1980 Anesthesiology 53(6):840-868
7239 Blood		GC	1	Not applicable	0.30 mg/100 ml	Drug induced fatality. Ethanol, 0.10 g/100 ml, also found. Autopsy, 1975-76, Los Angeles County, CA CALIFORNIA: AUTOPSIES; CASE HISTORIES; BLOOD; DRUG ABUSE; DRUGS; FORENSIC MEDICINE; ALCOHOLS	Mahmoud, J.B. Wassilak, T. Griesemer, P.C. 1979 Journal of Analytical Toxicology 3:137-142
7240 Blood, plasma	Injection	GC	a) 5 b) 1 c) 1 d) 2 e) 2 f) 2 g) 2 h) 2 i) 3 j) 7 k) 1 l) 3 m) 1 n) 1 o) 2	a) 0.14-0.37 ug/ml b) Not applicable c) Not applicable d) 0.14-0.22 ug/ml e) 0.11-0.13 ug/ml f) 0.11-0.09 ug/ml g) 0.14-0.36 ug/ml h) 0.13-0.23 ug/ml i) 0.06-0.37 ug/ml j) Not applicable k) 0.12-0.22 ug/ml l) Not applicable m) Not applicable n) Not applicable o) 0.07-0.13 ug/ml	a) Not given b) 0.26 ug/ml c) 0.27 ug/ml d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) 0.16 ug/ml l) Not given m) 0.11 ug/ml n) 0.12 ug/ml o) Not given	a) 15 min b) 20 min c) 25 min d) 30 min e) 35 min f) 40 min g) 45 min h) 50 min i) 55 min j) 60 min k) 70 min l) 75 min m) 100 min n) 120 min o) 155 min Times after 100 ug IM. Levels in amniotic fluid also measured. Plasma and amniotic fluid equilibrium reached at 120-145 min Women undergoing abortions at 16-20 wk of pregnancy, NY NEW YORK: AMNIOTIC FLUID; BLOOD PLASMA; ANALGESICS; DRUGS; PREGNANCY	Szeto, H.H. Zervoudakis, I.A. Cederqvist, L.L. Inturrisi, C.P. 1978 Obstetrics and Gynecology 52(1):59-62

[NEXT PAGE]

Isosorbic acid, 1-methyl-3-phenyl-, ethyl ester (9 CI)
 57-42-1
 15-821-N-02
 MN 247.35, MP 186-189 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7241 Blood, Serum	Injection		a) 5 b) 5	a) 0.14-0.04 ug/ml b) 0.16-0.01 ug/ml	a) Not given b) Not given	a) 40 and 80 min after 26 mg/cu m. Initial measurement 0.03 ug/ml at 15 min b) 40 and 80 min after 26 mg/cu m. plus 30 mg/cu m chlorpromazine. Initial measurement 0.03 ug/ml at 15 min Range of means Estimated from graph Healthy 21-30 yr olds. Marked lethargy and greater depression of mean systolic and diastolic pressures when drugs given together. ADULTS: BLOOD SERUM; NPKPE; ANALGESICS: DRUG INTERACTION; DRUGS; BLOOD PRESSURE	Stambaugh, J.E. Wainer, I.W. 1981 Journal of Clinical Pharmacology 21:140-146
7242 Blood, Serum	Injection	GC	a) 12 b) 12	a) 0.131-0.03 ug/ml b) 0.127-0.03 ug/ml	a) Not given b) Not given	a) 1 and 8 hr after 50 mg IM (test product) as hydrochloride. Initial measurement 0.110 ug/ml at 0.5 hr b) 1 and 8 hr after 50 mg IM (reference product). Initial measurement 0.105 ug/ml at 0.5 hr No significant differences between a) and b) Range of means, estimated from graph Healthy 21-30 yr olds, wt 110-185 lb Dizziness, dry mouth, light headedness BLOOD SERUM; ANALGESICS; DRUGS	Stambaugh, J.E. Wainer, I.W. 1974 Journal of Clinical Pharmacology 14(10):552-559
7243 Urine	Injection		10	a) Not given b) Not given	a) 34.7% b) 43.5%	a) 28 hr cumulative output, including metabolites, 26 mg/cu m dose b) 28 hr cumulative output, including metabolites, after 26 mg/cu m dose plus 30 mg/cu m chlorpromazine Healthy 21-30 yr olds Marked lethargy and greater depression of mean systolic and diastolic pressures when drugs given together. ADULTS: BLOOD SERUM; URINE; ANALGESICS: DRUG INTERACTION; DRUGS; BLOOD PRESSURE	Stambaugh, J.E. Wainer, I.W. 1981 Journal of Clinical Pharmacology 21:140-146

Isopropyl alcohol (9 CI)
2-Propanol (9 CI)

67-63-0
C3-BB-0

0-88-0
60-00

60.09, MP -89.5 to -89.5 C, IR 30.3 C, VP 10 mm Hg at 2.9 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7248 Blood, serum	Ingestion	GC	1	Not applicable	1.65 d/L	Unknown dose of ethanol-isopropenol 95 yr old COPD, respiratory distress PREG STATUS: DRUG ABUSE; DETOX; HIC9015	Vasilatos, J. Pollock, J. Robinson, C.A. 1978 Clinical Chemistry 45(12):1383-1385

1-Proline, 1-(3-mercapto-2-methyl-1-cyclopropyl)-, (S)-
(2571-86-3)

62571-86-2
CO-M-515-M-03

59-H15-W-03-S
pg 217.31

217.31

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SAMPLES	NUMBER OF CASES	MEAN	GENERAL IMPRESSION	REFERENCE
7285 Blood	Ingestion	BPLC	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given l) Not given m) Not given n) Not given o) Not given p) Not given q) Not given r) Not given s) Not given t) Not given u) Not given v) Not given w) Not given x) Not given y) Not given z) Not given	12	a) 106 mg/L b) 106 mg/L c) 106 mg/L d) 106 mg/L e) 106 mg/L f) 106 mg/L g) 106 mg/L h) 106 mg/L i) 106 mg/L j) 106 mg/L k) 106 mg/L l) 106 mg/L m) 106 mg/L n) 106 mg/L o) 106 mg/L p) 106 mg/L q) 106 mg/L r) 106 mg/L s) 106 mg/L t) 106 mg/L u) 106 mg/L v) 106 mg/L w) 106 mg/L x) 106 mg/L y) 106 mg/L z) 106 mg/L	a) 1 NF, 5 normal subjects b) 1 NF, 7 patients with chronic renal failure (CRF) c) 2 NF, group A d) 2 NF, group B e) 2 NF, group C f) 2 NF, group D g) 2 NF, group E h) 2 NF, group F i) 2 NF, group G j) 2 NF, group H k) 2 NF, group I l) 2 NF, group J m) 2 NF, group K n) 2 NF, group L o) 2 NF, group M p) 2 NF, group N q) 2 NF, group O r) 2 NF, group P s) 2 NF, group Q t) 2 NF, group R u) 2 NF, group S v) 2 NF, group T w) 2 NF, group U x) 2 NF, group V y) 2 NF, group W z) 2 NF, group X	Gordon, E. Morgan, R. Tobin, R. Pallan, S. Gale, T. Katzman, S. Rachbach, T. 1963 Hypertension 114: 456-459
7286 Blood, whole	Ingestion	GC/MS	a) 430-450 mg/ml b) Not given c) 500-6 mg/ml	12	a) Not given b) Not given c) Not given	Normal subjects, mean age 37, 1 yr, wt 66.7 kg. Patients with chronic renal failure caused by glomerulonephritis, mean age 51.3 yr, wt 55.6 kg.	Coslin, R.D. Wright, R.D. 1963 Journal of Clinical Pharmacology 23: 110-113

1-Proline, 1-(3-mercapto-2-methyl-1-oxopropyl)-, (S)-
 62571-86-2
 C9-H15-N-O3-S
 MW 217.31

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7287 Milk	Ingestion	GC/MS	11	a) 1.8-3.0 mg/ml b) Not given c) 2.2-5.5 mg/ml	a) Not given b) 2.0 mg/ml c) Not given	a) 1 hr after doses 1, 8, 7 b) About 8 hr after dose 6 c) 2.5 hr after dose 7. Mean range of peak times 1.5-3.0 hr Range of areas, estimated from graph 100 mg 3x/day (7 doses). Mean peak level 8.7 mg/ml at mean time of 3.8 hr. Mean AUC 22.9 mg hr/ml Levels significantly lower than those in blood Healthy 21-35 yr olds, wt 50-86 kg ADULTS; BLOOD; MILK; ANTINEOPLASTIC AGENTS; DRUG THERAPY; DRUGS; LACTATION	Devlin, R.G. 1981 Journal of Clinical Pharmacology 21:110-113
7288 Urine	Ingestion	NPLC	a) 5 b) 7	a) Not given b) Not given	a) 29 mg b) 8 mg	a) Normal subjects b) Patients with chronic renal failure (CRF) c) Cumulative excretion 6 hr after 50 mg dose d) Estimated from graph Significant decrease in excretion by CRF patient important factor in retention of drug. Normal subjects, mean age 37.3 yr, wt 66.7 kg. Patients with chronic renal failure caused by glomerulonephritis, mean age 47.8 yr, wt 55.6 kg ADULTS; KIDNEY DISEASES; BLOOD; DRUGS; ANTINEOPLASTIC AGENTS; DRUGS; METABOLISM; METABOLITES	Onoyama, E. Hirakata, H. Iseki, K. Gajjal, S. Ogata, K. Yoshida, M. Kawabata, Y. 1981 Hypertension 3(4):456-459

Leucorristine (8 CI)
 Vincalutoblastine, 22-oxo- (9 CI)
 57-22-7
 C26-H36-N4-O10
 MW 526.56, MP 218-220 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7289 Blood, serum	Injection	HPLC	a) 1 b) 1	a) 8.9X10 ³ (E-7)-2X10 ³ (E-9) b) Not applicable c) 1.9X10 ³ (E-7)-1.5X10 ³ (E-9) M	a) Not applicable b) Not applicable	a) 8 min and 28 hr after 2 mg b) 5 min and 28 hr after 2 mg c) 2.0-8.0 hr ranged from 5.0X10 ³ (E-9) M to 2.8X10 ³ (E-8) M Patients with lymphoma or leukemia CARCINOMAS; LYMPHOMA; BLOOD SERUM; CHROMOPHIL FLOID; DRUG THERAPY; DRUGS; CHEMOTHERAPY	Jackson, D.V., Jr. Sethi, V.S. Spar, C.L. McShorter, J.M. 1981 Cancer Research 41:1466-68
7290 Chromoph ilal fluid	Injection	HPLC	a) 1 b) 1 c) 1	a) 7X10 ³ (E-10)-1.2X10 ³ (E-9) M b) 9.5X10 ³ (E-10) M c) 2.4X10 ³ (E-9) M	a) Not given b) Not given c) Not given	a) 30 min and 6 hr after 2 mg b) 30 min after 2 mg c) 3 hr after 2 mg At other time periods measurements fell below detectable limits Patients with lymphoma or leukemia CARCINOMAS; LYMPHOMA; BLOOD SERUM; CHROMOPHIL FLOID; DRUG THERAPY; DRUGS; CHEMOTHERAPY	Jackson, D.V., Jr. Sethi, V.S. Spar, C.L. McShorter, J.M. 1981 Cancer Research 41:1466-68

lithias
7439-93-2
11
At 6.981, RD 180.56 C, RD 1336 C, VP 1 aa Hg at 723 C, 10 aa Hg at 690 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7251 Blood, serum	Ingestion	AS	16	a) 0.45-0.48 mg/l b) 0.78-0.50 mg/l	a) Not given b) Not given	a) Mean daily range (12 PM and 8 PM) for serum 4.5 mg/l. 5.5 mg/l slow release tablet given at 8 AM and 8 PM. 0.55 mg/l average at 8 AM before first dose. b) Mean daily range for 300 mg standard capsule given at 8 AM, 2 PM and 8 PM during 7 day study. Peak level occurred at 10 AM, plasma level 6.5 mg/l. Secondary peaks (0.7 mg/l) at 2 PM and 10 PM, about 2 hr after 2nd and 3rd doses. Estimated from graph. Healthy 19-30 yr olds BLOOD SERUM; DRUGS; COMPARATIVE EVALUATIONS; LITHIUM	Caldwell, R.C. Fentlake, R.J. Schriver, R.C. Lester, E.A. 1981 Journal of Clinical Pharmacology 21:104-109
7252 Blood, serum			60	a) < 0.6 nmol/l b) 0.6-0.8 nmol/l c) > 0.8 nmol/l	a) Not given b) Not given c) Not given	a) 33.3% of patients b) 33.3% of patients c) 33.3% of patients Range of serum levels for patients receiving prophylactic Li therapy Australia AUSTRALIA: NERVOUS SYSTEM DISEASES; BLOOD SERUM; ANTIDEPRESSIVE AGENTS; DRUG THERAPY; DRUGS	Coz, J. Evans, L. 1979 Medical Journal of Australia 1(13):622

Methanesulfonamide, 4'-((1-hydroxy-2-(isopropylamino) ethyl)- (8 CI)
3930-20-9
C12-H20-N2-O3-S
MW 272.36

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7253 Blood, plasma	Ingestion	HPLC	5	0.18-2.65 ug/ml	Not given	0.25 and 3 hr after 320 mg. Final measurement, 0.27 ug/ml at 30 hr Range of means Healthy 21-30 yr olds, mean wt 63 kg BLOOD PLASMA; DRUGS; ANTIDEPRESSIVE AGENTS; DRUGS	Fourtillan, J.B. Lefebvre, M.A. Coertols, P. Sanz, M.C. 1981 Therapie 36:457-463
7254 Blood, plasma	Ingestion		a) 6 b) 6	a) 970-160 ng/ml b) 1210-160 ng/ml	a) Not given b) Not given	a) 2 and 10 hr after 160 mg dose. Initial measurement 700 ng/ml at 1 hr b) 2 and 10 hr after 160 mg dose. Initial measurement 690 ng/ml at 1 hr. Blood alcohol level of 0.0-150 mg/100 ml (mean 67.8 or 55.2 mg/100 ml) Range of means Healthy students, mean age 22.9 yr, mean wt 63.9 kg. ADULTS: BLOOD PLASMA; ANTIARRHYTHMIC AGENTS; DRUG INTERACTION; DRUGS; ALCOHOLS	Sotaniemi, E.A. Anttila, M. Rautio, A. Stengard, J. Sukho, P. Järvenpää, P. 1981 Clinical Pharmacology and Therapeutics 29(6):705-710

(NEXT PAGE)

Methacetylconallide, 8'-((1-hydroxy-2-(isopropoxyphenyl)ethyl)- (8 CI)
 Methacetylconallide, 8'-((1-hydroxy-2-(1-ethoxyethyl)isobutyl)phenyl)- (9 CI)
 3930-20-9
 C12-H20-N2-O3-S
 MW 272.36

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7255 Blood, Plasma	Ingestion	Fluorometry	a) 5 b) 5 c) 5 d) 5	a) 0.7-0.1 ug/ml b) 8-0.06 ug/ml c) 1.5-0.2 ug/ml d) 8-0.4 ug/ml	a) Not given b) Not given c) Not given d) Not given	a) 2 and 48 hr after 50 mg. Initial measurement 0.15 ug/ml at 1 hr b) 2 and 48 hr after 100 mg. Initial measurement 0.5 ug/ml at 1 hr c) 4 and 48 hr after 200 mg. Initial measurement 0.6 ug/ml at 1 hr d) 2 and 48 hr after 400 mg. Initial measurement 2 ug/ml at 1 hr Range of means, estimated from graph Healthy 18-33 yr olds Duration of cardiac beta blocking activity determined by elimination half life and dose. ADULTS: BLOOD PLASMA; DRUGS: COMPARATIVE EVALUATIONS	Matron, D.W.G. Balnave, K. Kinney, C.D. Wilson, R. Russell, C.J. Shanks, R.G. 1981 Clinical Pharmacology and Therapeutics 29(3):295-302
7256 Urine	Ingestion	HPLC	5	3.0-50.9% of dose	Not given	2 and 48 hr after 320 mg Cumulative output. Range of means Healthy 21-30 yr olds, mean wt 63 kg BLOOD PLASMA; URINE; ANTIDEPRESSIVE AGENTS; DRUGS	Fourtillat, J.B. Lefebvre, M.A. Courtois, P. Sax, M.C. 1981 Thesapie 36:457-463

Morphine-3,6alpha-diol, 7,8-didehydro-4,5-epoxy-17-methyl- (8 CI)
 Morphine-3,6-diol, 7,8-didehydro-4,5-epoxy-17-methyl- (Salpho, Salphad) (9 CI)
 3930-20-9
 C17-H19-N3-O3
 MW 285.33, MP 197 C (decolorable phase), 254 C (decolor)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7257 Bile		HPLC	19	52-5254 ug/ml	621 ug/ml	19 of 66 cases submitted for toxicological analysis, autopsy material. New Jersey NEW JERSEY: AUTOPSIES; BILE; BLOOD; BRAIN; KIDNEYS; LIVER; DRUG ABUSE; DRUGS; NARCOTICS; FORENSIC MEDICINE; METABOLITES	Conabie, R.G. Kaul, B. 1974 Journal of Forensic Sciences 19(2):307-312
7258 Bile	Infection Inhalation	HPLC GC/MS	6	3.40-72.42 ug/dl	Not given	Suspected or known cocaine overdose fatalities, autopsy data 18-26 yr olds, Los Angeles County, CA CALIFORNIA: AUTOPSIES; BILE; BLOOD; URINE; DRUG ABUSE; DRUGS; NARCOTICS; FORENSIC MEDICINE; INHALATION	Sakaura, G.R. Soguchi, T. 1981 Clinical Toxicology 18(8):895-905

(NEXT PAGE)

Norpine-3,6-epoxide, 7,8-dihydro-8,9-epoxy-17-actyl- (8 CI)
 Norpinan-3,6-epoxide, 7,8-dihydro-8,9-epoxy-17-actyl- (Salph,6alpha)- (9 CI)
 C17-819-8-03
 MW 285.33, BP 197 C (metastable phase), 254 C (decomp)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7259 Blood	Injection	GC	1	Not given	0.2 ug/100 ul	36 hr after overdose 26 yr old Asystolic state, without spontaneous respirations, comatose and hypotensive. Hemorrhagic bronchopneumonia. Centrilobular hepatic necrosis and renal tubular necrosis. AUTOPSIES: CASE HISTORIES: BLOOD: LIVER: DRUG ABUSE: NARCOTICS: FORENSIC MEDICINE	Wiscly, D.V. Makamura, G.B. 1980 Journal of Forensic Sciences 25(2):366-368
7260 Blood		RIA	20	See legend-200 ug/ml	na ug/ml	70 of 66 cases submitted for toxicological analysis, autopsy material. New Jersey NEW JERSEY: AUTOPSIES: BILE: BLOOD: BRAIN: FIDERS: LIVER: DRUG ABUSE: DRUGS: NARCOTICS: FORENSIC MEDICINE: METABOLITES	Couabls, R.G. Maal, B. 1978 Journal of Forensic Sciences 15(2):307-312
7261 Blood		RIA GC/MS	2	a) Not applicable b) Not applicable	a) 0.13 ug/kg b) 0.33 ug/kg	a) 3100 g fetus. Mother dependent > 8 yr. Cocaine detected. b) 20% g male fetus, dead at least 3-4 days pre-delivery. Cocaine level 0.04 ug/kg Stillborn infants of 20 and 21 yr old heroin-dependent mothers Death from intrauterine anoxia and acute intoxication. Mothers had injected or injected morphine derivative and/or propoxyphene. FETUS: INFANTS: BLOOD: BRAIN: FIDERS: LIVER: LUNGS: ANALGESICS: DRUG ABUSE: DRUGS: NARCOTICS: METABOLITES	Cravey, R.H. Need, D. 1981 Clinical Toxicology 18(9):911-914
7262 Blood	Injection Inhalation	RIA GC/MS	9	0.32-0.40 ug/dl	Not given	Suspected or known cocaine overdose fatalities, autopsy data 22-26 yr olds, Los Angeles County, CA CALIFORNIA: AUTOPSIES: BILE: BLOOD: URINE: DRUG ABUSE: DRUGS: NARCOTICS: FORENSIC MEDICINE: INHALATION	Makamura, G.B. Moguchi, T.T. 1981 Clinical Toxicology 18(9):993-995

(NEXT PAGE)

Morphine-3,6- α -diol, 7,8-dihydro-6,5-Salpa-epoxy-17-methyl- (8 CI)
 Morphine-3,6- α -diol, 7,8-dihydro-6,5-epoxy-17-methyl- (Salpa, Salpa)- (9 CI)
 57-27-2
 C17-819-8-03
 SW 265.13, EP 197 C (Metastable phase), 254 C (decup)

(CONTINUED)

TISSUE	DEPOSITION ROUTE	ANALYTICAL METHOD	SUBJECTS OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7263 Blood		Fluorometry	a) 23 b) 27 c) 268 d) 61 e) 69 f) 74 g) 112 h) 12	a) Not detected-299 ug/dl b) Not detected-29 ug/dl c) Not detected-199 ug/dl d) 1-100+ ug/dl e) 1-99 ug/dl f) 1-99 ug/dl g) 1-99 ug/dl h) 2-31 ug/dl	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) Narcotic addiction deaths, 1974, 23 cases, 6 above 29 ug/dl b) Narcotic deaths, 1974, 27 cases c) Narcotic addiction deaths, 1975, 268 cases, 13 above 29 ug/dl d) Deaths involving morphine, 61 cases, 13 above 29 ug/dl e) Deaths involving morphine and ethanol, 69 cases of c), 11 above 29 ug/dl f) Deaths involving morphine and quinine, 74 cases of c), 12 above 29 ug/dl g) Deaths involving morphine, ethanol and quinine, 112 cases of c), 17 above 29 ug/dl h) Deaths involving morphine and ethanol, 12 cases of c), none above 29 ug/dl Wayne County, MI MICRIGAP: AUTOPSIES; DRUG ABUSE; DRUGS: NARCOTICS; PSYCHOTROPIC DRUGS; SYMPTOMS	Moskote, J.B. 1977 Journal of Forensic Sciences 22(4):716-724
7264 Blood, Plasma	Injection		12	a) 40-5 ug/ml b) 40-5 ug/ml c) 51-45 ug/ml d) 180-50 ug/ml	a) Not given b) Not given c) Not given d) Not given	a) Free morphine, 0.25 and 6 hr after S. 75 ug subjects b) Conjugated morphine, 0.5 and 6 hr after dose as in a), Initial measurement 148 ug/ml at 0.25 hr c) Free morphine (second study), 0.25 and 6 hr after 5.75 ug/mg (6 subjects) d) Conjugated morphine, 0.25 and 6 hr after dose as in c) Range of means, estimated from graph Quinidine (5 or 10 ug/6 hr) had little effect on plasma levels Healthy 20-28 yr olds BLOOD PLASMA: URINE: DRUG INTERACTION: DRUGS: NARCOTICS; METABOLITES	Brant, S.F. Dellon, M. Hillson, W.B. 1974c Journal of Clinical Pharmacology 14(11/12):581-587
7265 Blood, Plasma	Injection	Radiochemistry	12	a) 55-5 ug/ml b) 40-5 ug/ml c) 43-3 ug/ml d) 170-50 ug/ml e) 170-60 ug/ml f) 170-50 ug/ml g) 170-50 ug/ml h) 190-70 ug/ml	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) Free morphine (6 subjects) b) Free morphine, dose plus 0.6 g morphine (same subjects as a) c) Free morphine (6 subjects) d) Free morphine, dose plus 1.2 g aspirin/6 hr (same subjects as c) e) Conjugated morphine (metabolite) (6 subjects) f) Conjugated morphine, Morphine dose plus 0.6 g aspirin/6 hr (same subjects as e) g) Conjugated morphine (6 subjects) h) Conjugated morphine, morphine dose plus 0.6 g aspirin/6 hr (same subjects as g) Means (estimated from graph) at 0.25 and 6 hr after 5.75 ug morphine/mg m. Levels at 0.5 hr for e), f) and g) slightly higher than 170 ug/ml Significant differences between a) and b), c) and d), g) and h) Healthy 21-28 yr olds BLOOD PLASMA: URINE: ANALYTICS; DRUG INTERACTION: DRUGS: NARCOTICS	Brant, S.F. Dellon, M. Hillson, W.B. 1974b Clinical Pharmacology and Therapeutics 15(3):283-290

(SEE PAGE)

Norpine-3,6-epoxy-1,7,8-dihydro-4,5-epoxy-17-ethyl- (8 CI)
 Norpine-3,6-epoxy-1,7,8-dihydro-4,5-epoxy-17-ethyl- (5-epoxy-17-ethyl- (9 CI)
 C17-816-4-03
 RW 285.33, RP 197 C (retestable phase), 28e C (decamp)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7266 Blood, plasma	Injection		12	a) 53-5 ug/ml b) 48-5 ug/ml c) 160-50 ug/ml d) 170-50 ug/ml	a) Not given b) Not given c) Not given d) Not given	a) Free morphine. 0.25 and 6 hr after 2.5 mg/kg a (6 subjects) b) Free morphine. Initial measurement and 4 hr after 10 mg/70 kg. c) Conjugated morphine (same study as a). d) Conjugated morphine (same study as a). e) 0.5 and 6 hr after dose. 150 ug/ml at 0.25 hr f) 0.5 and 6 hr after dose. 150 ug/ml at 0.25 hr Range of means estimated from graph Propranolol (20 or 40 mg/6 hr) had little effect on levels. Healthy 21-28 yr olds BLOOD PLASMA; URINE; DRUG INTERACTION; DRUGS; NARCOTICS; METABOLITES	Brunk, S.F. Deille, M. Wilson, W.R. 1978 Clinical Pharmacology and Therapeutics 16(6):1039-1044
7267 Blood, serum	Injection	RIA	3-11	a) 0.4-0.02 ug/ml b) 0.07-0.02 ug/ml c) 0.025-0.075 ug/ml	a) Not given b) Not given c) Not given	a) Total morphine. Initial measurement and 4 hr after 10 mg/70 kg. b) Free morphine. Initial measurement and 4 hr after 10 mg/70 kg. c) Conjugated morphine, same study as b). d) 0.5 and 2 hr Range of means, estimated from graph Patients >50 yr old had significantly higher levels during first 5 min 23-75 yr old surgical patients AGE; BLOOD SERUM; DRUG THERAPY; DRUGS; NARCOTICS	Berkovits, B.A. Ngai, S.H. Yang, J.C. Hempstead, B.S. Spector, S. 1978 Clinical Pharmacology and Therapeutics 17(6):629-635
7268 Brain		RIA	43	Meqilizable-200 ug/100g	35 ug/100g	43 of 66 cases submitted for toxicological analysis, autopsy material. New Jersey NEW JERSEY: AUTOPSIES; BILE; BLOOD; BRAIN; KIDNEY; LIVER; DRUG ABUSE; DRUGS; NARCOTICS; FORENSIC MEDICINE; METABOLITES	Cumbe, B.G. Kaul, B. 1978 Journal of Forensic Sciences 19 (2):307-312
7269 Brain		RIA GC/MS	2	a) Not applicable b) Not applicable	a) 0.06 ug/kg b) 0.08 ug/kg	a) 2100 fetus. Mother dependent > 4 yr. Codeine not detected b) 2054 g male dead at least 3-4 days pre-delivery. Codeine not detected Stillborn infants of 20 and 21 yr old heroin-dependent mothers Death from intravenous anoxia and acute intoxication. Mothers had injected or injected morphine derivative and/or propoxyphene. FETUS; INFANTS; BLOOD; BRAIN; KIDNEY; LIVER; LUNGS; ANALGESICS; DRUG ABUSE; DRUGS; NARCOTICS; METABOLITES	Cavey, R.H. Reed, D. 1991 Clinical Toxicology 18(8):911-914

(NEXT PAGE)

Morphine-3,6- α -diol, 7,8-didehydro-8,9- α -epoxy-17-ethyl- (8 CI)
 Morphine-3,6- α -diol, 7,8-didehydro-8,9- α -epoxy-17-ethyl- (Salph, α Salph α) - (9 CI)
 51-27-2
 C17-819-8-03
 MW 285.33, mp 197 C (metastable phase), 25 α C (decomp)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7270 Kidney		RIA	29	5-225 ug/100g	93 ug/100g	29 of 66 cases submitted for toxicological analysis, autopsy material. New Jersey FETUS: AUTOPSIES; BILE; BLOOD; BRAIN; KIDNEYS; LIVER; DRUG ABUSE; DRUGS; NARCOTICS; FORENSIC MEDICINE; METABOLITES	Coulbiss, R.G. Kaul, B. 1974 Journal of Forensic Sciences 19 (2):307-312
7271 Kidney		RIA GC/MS	1	Not applicable	0.21 ug/kg	2100 g fetus. Mother dependent > 4 yr, codeine level 0.02 ug/kg. Stillborn infant of 20 yr old heroin-dependent mother Death from intrauterine anoxia and acute intoxication. FETUS: INFANTS; BLOOD; BRAIN; KIDNEYS; LIVER; LUNGS; ANALGESICS; DRUG ABUSE; DRUGS; NARCOTICS; METABOLISM; METABOLITES	Cravey, R.H. Reed, D. 1981 Clinical Toxicology 18 (8):911-914
7272 Liver	Injection	GC	1	Not given	0.05 ug/100 g	38 hr after overdose 26 yr old Asystolic state, without spontaneous respirations, coarctate and hypotensive. Hemorrhagic bronchopneumonia. Centrilobular hepatic necrosis and renal tubular necrosis. AUTOPSIES: CASE HISTORIES; BLOOD; LIVER; DRUG ABUSE; NARCOTICS; FORENSIC MEDICINE	Wiseley, D.V. McIntyre, G.R. 1980 Journal of Forensic Sciences 25 (2):366-368
7273 Liver		RIA	44	6-200 ug/100g	72 ug/100g	44 of 66 cases submitted for toxicological analysis, autopsy material. New Jersey AUTOPSIES; BILE; BLOOD; BRAIN; KIDNEYS; LIVER; DRUG ABUSE; DRUGS; NARCOTICS; FORENSIC MEDICINE; METABOLITES	Coulbiss, R.G. Kaul, B. 1974 Journal of Forensic Sciences 19 (2):307-312
7274 Liver		RIA GC/MS	2	a) Not applicable b) Not applicable	a) 0.18 ug/kg b) 0.12 ug/kg	2100 g fetus. Mother dependent > 4 yr. Codeine not detected b) 366 g fetus dead 4-5 days pre-delivery. Stillborn infants of 20 and 21 yr old heroin-dependent mothers Death from intrauterine anoxia and acute intoxication. Mothers had ingested or injected morphine derivative and/or propoxyphene. FETUS: INFANTS; BLOOD; BRAIN; KIDNEYS; LIVER; LUNGS; ANALGESICS; DRUG ABUSE; DRUGS; NARCOTICS; METABOLISM; METABOLITES	Cravey, R.H. Reed, D. 1981 Clinical Toxicology 18 (8):911-914

(SEE PAGE)

Morphine-3,6-diol, 7,8-didehydro-6,5-epoxy-17-methyl- (6 CI)
 Morphine-3,6-diol, 7,8-didehydro-6,5-epoxy-17-methyl- (Salphalalpaal) - (9 CI)
 C17-116-8-03
 MW 285.33, mp 197 C (decolorable phase), 25a C (decolor)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SOURCE OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7275 Lung		RIA GC/MS	1	Not applicable	0.20 mg/kg	2:00 g fetus. Acther dependent > a yr. Codeine level 0.02 mg/kg. Stillborn infant of 20 yr old heroin-dependent mother Death from intrasternal anoxia and acute intoxication. FETUS; INFANTS; BLOOD; BRAIN; KIDNEYS; LIVERS; LUNGS; ANALGESICS; DRUG ABUSE; DRUGS; NARCOTICS; METABOLISM; METABOLITES	Cravey, R.H. 1981 Clinical Toxicology 16(7):911-914
7276 Urine	Injection	RIA	1	a) 7979-80 ug/l b) 2000-21 ug/l	a) Not given b) Not given	a) 0-72 hr after 10 mg/70 kg, subject b) 0-72 hr after 10 mg/70 kg, subject 2. Representative data from 12 subjects expressed as morphine equivalents. Volunteers URINE; DRUGS; HYPNOTICS; NARCOTICS; MEASUREMENT METHODS	Usategui-Gomez, M. Kosloski, J.E. Clemens, B. McGhee, B. Tollischak, E. Ludzie, T. Grunberg, E. 1975 Clinical Chemistry 21(10):1378-1382
7277 Urine	Injection	RIA	a) 1 b) 1 c) 1 d) 1 e) 1	a) 5.334-7.423 mg b) 12.407-14.241 mg c) 8.775-14.383 mg d) 28.100-32.792 mg e) 35.100-37.298 mg	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 53.3-74.2% of 10 mg dose b) 62.0-71.2% of 20 mg dose c) 29.3-47.9% of 30 mg dose d) 65.3-82.0% of 40 mg dose e) 70.2-74.6% of 50 mg dose Total cumulative output (morphine and glucuronide metabolite) 24 and 168 hr after IV dose. Hospital patients, Japan URINE; DRUGS; NARCOTICS; MEASUREMENT METHODS; JAPAN	Takabashi, K. Koida, M. Koneto, H. Goto, Y. Haseba, S. 1975 Japanese Journal of Pharmacology 25:348-349
7278 Urine	Injection	TLC GC	4	a) 6.60-9.90% of dose b) 62.97-82.60% of dose	a) 8.27 $\pm$ 0.6% of dose b) 76.49 $\pm$ 0.40% of dose SE	a) Free morphine b) Total, including metabolites Mean daily output for 7 day period after stabilization on 60 mg, as sulfate, a x/day for a wk. Data also given for individual metabolites 27-41 yr old morphine addicts DRUG ABUSE; DRUGS; NARCOTICS; URINE; METABOLITES	Yeh, S.Y. 1975 Journal of Pharmacology and Experimental Therapeutics 192(1):201-210
7279 Urine	Injection		12	a) 4-11% of dose b) 5-11% of dose c) 5-6% of dose d) 7-50% of dose SE	a) Not given b) Not given c) Not given d) Not given	a) Free morphine, 0.25 and 24 hr cumulative output after 5.75 mg/kg (6 subjects) b) Same as a) second study (6 subjects) c) Same as a), conjugated morphine d) Same as b), conjugated morphine Range of means, estimated from graph Glucuronide (%) of morphine little effect on cumulative output Healthy 20-28 yr olds BLOOD PLASMA; URINE; DRUG INTERACTION; DRUGS; NARCOTICS; METABOLITES	Brunk, S.F. Delle, R. Wilson, W.P. 1974c Journal of Clinical Pharmacology 14(11/12):581-587

(NEXT PAGE)

Norpine-3,6-epoxy-17,18-dihydro-8,9-epoxy-17-ethyl- (8 CI)
 Norpine-3,6-epoxy-17,18-dihydro-8,9-epoxy-17-ethyl- (Salpho,6-ethyl)- (9 CI)
 C17-815-8-03
 NW 285.33, EP 197 C (metastable phase), 254 C (decomp)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUMMER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7280 Urine	Injection	Radioactivity	12	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 11.5% of dose b) 12% of dose c) 11% of dose d) 10.4% of dose e) 50% of dose f) 51.4% of dose g) 51.4% of dose h) 47.2% of dose	a) Free morphine (6 subjects) b) Free morphine, dose plus 0.6 g aspirin/6 hr (same subjects as a) c) Free morphine (6 subjects) d) Free morphine, dose plus 1.2 g aspirin/6 hr (same subjects as c) e) Free morphine (metabolite) (6 subjects) f) Conjugated morphine, morphine dose plus 0.6 g aspirin/6 hr (same subjects as e) g) Conjugated morphine (6 subjects) h) Conjugated morphine, morphine dose plus 1.2 g aspirin/6 hr (same subjects as g) Significant differences between a) and b), c) and d) graph Significant differences between a) and b), c) and d) Healthy 21-28 yr olds BLOOD PLASMA: URINE; ANALGESICS; DRUG INTERACTION: DRUGS; NARCOTICS	Brunk, S.P., Delle, M., Wilson, W.R., 1978b Clinical Pharmacology and Therapeutics 15(3):283-290
7281 Urine	Injection	Radioactivity	2	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable h) Not applicable	a) 50.9% of dose b) 47.4% of dose c) 85.5% of dose d) 76.6% of dose e) 47.8% of dose f) 43.6% of dose g) 87.2% of dose h) 76.6% of dose	a) Addict, 6 hr, % radioactivity as N-3 b) Addict, 6 hr, % radioactivity as C-14 c) Addict, 72 hr, % radioactivity as N-3 d) Addict, 72 hr, % radioactivity as C-14 e) Non-user, 6 hr, % radioactivity as N-3 f) Non-user, 6 hr, % radioactivity as C-14 g) Non-user, 72 hr, % radioactivity as N-3 h) Non-user, 72 hr, % radioactivity as C-14 Dose a mixture of morphine 6-(N-3) and morphine-6-(C-14) 27 yr old opiate addict, no morphine or heroin for 6 mo, maintained on methadone. Normal 26 yr old, no sedation. URINE: DRUGS; NARCOTICS; MEASUREMENT METHODS; METABOLISM	Hahn, E.P., Hoffmann, R., Vinken, J., 1977 Research Communications in Chemical Pathology and Pharmacology 18(5):401-414
7282 Urine	Injection	Radioactivity	12	a) Not given b) Not given c) Not given	a) 10.9% of dose b) 12.5% of dose c) 9.7% of dose	a) Free morphine, 24 hr cumulative excretion after 5.75 mg/kg a b) Same as a), with 20 mg Propriolol/6 hr c) Same as a), with 40 mg Propriolol/6 hr Cumulative 24 hr excretion of free morphine was 48-49% of dose in a)-c). Healthy 21-28 yr olds BLOOD PLASMA: URINE; DRUG INTERACTION: DRUGS; NARCOTICS; METABOLISM	Brunk, S.P., Delle, M., Wilson, W.R., 1978a Clinical Pharmacology and Therapeutics 16(6):1039-1044

(NEXT PAGE)

Morphine-3,6-epoxy-4,7,8-didehydro-8, Salpha-epoxy-17-methyl- (8 CI)
 Morphine-3,6-epoxy-4,7,8-didehydro-8,5-epoxy-17-methyl- (Salpha,6alpa)- (9 CI)
 MW 285.33, BP 197 C (metastable phase), 258 C (decomp)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7283 Urine	Injection	RIA GC/MS	1	Not applicable	5.00 ng/dl	Suspected cocaine overdose fatality, autopsy data 37 yr old, Los Angeles County, CA CALIFORNIA: AUTOPSIES; BILE; BLOOD; URINE; DRUG ABUSE; DRUGS; NARCOTICS; FORENSIC MEDICINE; INHALATION	Sakuma, J.H. Soguchi, T.T. Clinical Toxicology 16(8):88-905
7284 Urine		GC Fluorometry IR	a) 32 b) 2 c) 6	a) 0.1-4.0 ng/100 ml b) 0.1-0.2 ng/100 ml c) 0.5-4.0 ng/100 ml	a) Not given b) Not given c) Not given	a) U.S. Army separation center B, 894 tests, 1971 b) U.S. Army separation center B, 393 tests, 1971 c) U.S. Army separation center C, 341 tests, 1971 URINE; DRUG ABUSE; DRUGS; NARCOTICS	Winter, P.E. Stahl, C.J. Goldman, L.R. Gibson, R.H. Journal of Forensic Sciences 19(2):317-328
7285 Urine		Spia immunoassay	10	a) 20000-2 ng ng/ml b) 15.2-136.1 ng ng	a) Not given b) 50 ng ng	a) Day 0 and 13 after start of heroin withdrawal b) Total output for first 72 hr following withdrawal Last dose 100-750 mg. Mean daily intake exceeded 1000 mg Range of sedation estimated from graph Military personnel, mean age 20.3 yr, leaving Viet Nam VIETNAM: ADULTS; URINE; ANALGESICS; DRUG ABUSE; DRUGS; SEDATIVES	Robinson, M.G. Hose, R.C. Hose, R.C. Singer, M.H. Rege, W.H. Clinical Pharmacology and Therapeutics 16(2):103-109

Morphine-3,6-epoxy-4,7,8-didehydro-8, Salpha-epoxy-17-methyl-, diacetate (ester) (8 CI)
 Morphine-3,6-epoxy-4,7,8-didehydro-8,5-epoxy-17-methyl- (Salpha,6alpa)-, diacetate (ester) (9 CI)
 MW 365.40, BP 173 C, BP 273 C at 12 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7286 Blood, Plasma	Injection	RIA	a) 16 b) 3	a) 0-160 ng/ml b) 0.5-15 ng/ml	a) Not given b) Not given	a) Men b) Women Dose >150 mg/day Heroin addicts, 19-25 yr old Significant reduction of testosterone and dihydrotestosterone levels no changes in those of androstenedione, luteinizing hormone, and follicle stimulating hormone BLOOD PLASMA; DRUG ABUSE; DRUGS; NARCOTICS	Boileau, G. Lefica, S. Famigli, C. Lott, S. Francis, F. Francis, F. Francis, F. Francis, F. Toxicology 15:19-29

Morphine-6-one, 17-(cyclopropylmethyl)-4,5-epoxy-3,14-dihydroxy- (8 CI)
 Morphine-6-one, 17-(cyclopropylmethyl)-4,5-epoxy-3,14-dihydroxy- (5a,b) (9 CI)
 1650-81-3
 C20-823-B-08
 BB 361.40

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7287 Blood, plasma	Injection Ingestion	TIC Radioactivity GC/MS	a)-d) 6 e)-h) 5	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 7.9 $\pm$ 0.9 ng Eq/ml b) 3.2 $\pm$ 0.9 ng Eq/ml c) 3.2 $\pm$ 0.9 ng Eq/ml d) 1.3 $\pm$ 0.8 ng Eq/ml e) 1.3 $\pm$ 0.8 ng Eq/ml f) 1.3 $\pm$ 0.8 ng Eq/ml g) 1.3 $\pm$ 0.8 ng Eq/ml h) 1.3 $\pm$ 0.8 ng Eq/ml	a) Half-life, 135 min. Conjugated form, 100% at 150 min. b) Beta-naltrexol, 135 and 270 min. Conjugated form, 48 $\pm$ 16 ng Eq/ml at 360 min c) 2-hydroxy-3-O-methyl-beta-naltrexol, 270 min. Conjugated form, 4.8 $\pm$ 0.8 ng Eq/ml at 105 min. Naltrexol, 105 and 165 min. Conjugated form, 24 $\pm$ 11 ng Eq/ml at 150 min d) Same as c) 3 min. Conjugated form, 0.9 ng Eq/ml at 30-90 min e) Same as b) 10-180 min. f) Conjugated form, 0.8 ng Eq/ml at 300 min g) Same as c) 3 min. Conjugated form, 0.2 ng Eq/ml at 10-180 min h) Same as d) 3 min. Conjugated form 0.2 ng Eq/ml at 15-180 min Mean peaks after 30 ng oral (a)-h) and 1 ng IV (e)-h)	Wall, M.E. Brine, D.E. Perez-Royes, M. 1981 Drug Metabolism and Disposition 9(4):369-375
7288 Urine	Injection Ingestion	TIC Radioactivity GC/MS	a) 6 b) 5	a) Not given b) Not given	a) 60 $\pm$ 3% of dose b) 56 $\pm$ 5% of dose S.E.	a) 48 hr cumulative excretion after 50 mg oral, as hydrochloride b) 72 hr cumulative excretion after 1 mg IV Healthy 18-30 yr olds BLOOD PLASMA: URINE: DRUGS: METABOLITES	Wall, M.E. Brine, D.E. Perez-Royes, M. 1981 Drug Metabolism and Disposition 9(4):369-375

Morphine-6-one, 4,5-epoxy-3-hydroxy-17-methyl- (8 CI)
 Morphine-6-one, 4,5-epoxy-3-hydroxy-17-methyl-, (5a,b) (9 CI)
 C17-819-03
 BB 285.33, BP 266-267 C (crystals from ethanol)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7289 Blood, plasma	Injection, Ingestion	N/A	6	a) 1.5-0.01 ng/ml b) 1.3-0.2 ng/ml	a) Not given b) Not given	a) 15 min and 12 hr after 2 mg IV (mean AUC 81.05 ng/ml x hr) b) 75 min and 12 hr after 4 mg oral. Initial serum sample 0.6 ng/ml at 15 min (mean AUC 87.16 ng/ml x hr) Range of values, estimated from graph 25-29 yr old non-smokers ADULTS: BLOOD PLASMA: DRUGS: NARCOTICS	Vallier, J.J. Stewart, J.K. Kotras, J.A. Kotras, E.B. Bonighetti, L.L. 1981 Journal of Clinical Pharmacology 21:152-156

Morphine-6-one, 4, 5-epoxy-3-methoxy-17-ethyl- (8 CI)
 Morphine-6-one, 4, 5-epoxy-3-methoxy-17-ethyl-, (Salpa)- (9 CI)
 C18-H21-N-O3
 MW 299.36, MP 198 C (pale from alcohol)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7290 Blood	Ingestion	RIA	a) 1 b) 1	a) Not applicable b) Not applicable	a) 1.5 µg/l b) 1.2 µg/l	a) Post-mortem. 160 µg/l ethanol also present. b) Dose reported to be 4 oz Nycodan (8 µg/5 ml hydrocodone bitartrate) - 0.9 µg/l diazepam and 0.6 µg/l nordiazepam also present. 27 yr old drug abuser and 35 yr old suicide victim. AUTOPSY: SUICIDE; BLOOD; DRUG ABUSE; DRUGS; FORENSIC MEDICINE; MEASUREMENT METHODS	Clabura, G. Koves, E. 1981 Journal of Analytical Toxicology 5: 296-299

Morphine-6-ol, 7, 8-didehydro-4, 5-epoxy-3-methoxy-17-ethyl- (8 CI)
 Morphine-6-ol, 7, 8-didehydro-4, 5-epoxy-3-methoxy-17-ethyl-, (Salpa, 6alpa)- (9 CI)
 C18-H21-N-O3
 MW 299.36, MP 158-156 C (after drying at 80 C)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7291 Bile	Injection	RIA GC/MS	1	Not applicable	0.60 µg/dl	Suspected cocaine overdose fatality 22 yr old, Los Angeles County, CA CALIFORNIA; AUTOPSY; BILE; BLOOD; URINE; DRUG ABUSE; DRUGS; NARCOTICS; FORENSIC MEDICINE; INHALATION	Nakanaka, G.B. Noguchi, T.T. 1981 Clinical Toxicology 18(8):895-905
7292 Blood		RIA GC/MS	1	Not applicable	0.08 µg/kg	200g 9 male fetus dead at least 3-4 days pre-delivery. Morphine level 0.33 µg/kg Stillborn infant of heroin-dependent mother. Death from intrauterine anoxia and acute intoxication. Mother used heroin and propoxyphene during pregnancy. FETUS; INFANTS; BLOOD; URINE; URINE; LIVER; LUNGS; ANALGESICS; DRUG ABUSE; DRUGS; NARCOTICS; METABOLISM; RETARDANTS	Cravey, R.F. Reed, D. 1981 Clinical Toxicology 18(8):911-916
7293 Blood	Inhalation	RIA GC/MS	1	Not applicable	0.25 µg/dl	Suspected cocaine overdose fatality 22 yr old, Los Angeles County, CA CALIFORNIA; AUTOPSY; BILE; BLOOD; URINE; DRUG ABUSE; DRUGS; NARCOTICS; FORENSIC MEDICINE; INHALATION	Nakanaka, G.B. Noguchi, T.T. 1981 Clinical Toxicology 18(8):895-905
7294 Blood, plasma	Ingestion	GC/MS	a) 1 b) 1	a) 117-25 µg/ml b) 97-15 µg/ml	a) Not given b) Not given	a) 1 and 8 hr after 60 mg as sulfate. Initial measurement 110 µg/ml at 0.5 hr. b) 1 and 8 hr after 60 mg as sulfate. Initial measurement 88 µg/ml at 0.5 hr. Healthy subjects BLOOD PLASMA; DRUGS; NARCOTICS; MEASUREMENT METHODS; RETARDANTS	Brunson, R.E. Nash, J.F. 1977 Clinical Chemistry 21(13):1754-1969

(NEXT PAGE)

Morphine- α -acetyl, 7,8-dihydro-4,5- α -epoxy-3-methoxy-17-methyl- (8 CI)
 76-57-1, 7,8-dihydro-4,5- α -epoxy-3-methoxy-17-methyl-, (Salphac, Salpa.) - (9 CI)
 C18-R21-N-03
 MW 299.36, mp 154-156 C (after drying at 80 C)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7295 Blood, plasma	Ingestion	BIA	2	a) 200-15 mg/ml b) Not applicable c) 200-4 mg/ml d) 7-1.5 mg/ml	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 1 and 12 hr, subject 1 b) 1 and 12 hr, subject 1 (morphine), subject 2 c) 1 and 12 hr, subject 2 (morphine), subject 2 d) 1 and 12 hr, subject 2 (morphine), subject 2 Tose 60 mg as phosphate, plus 45 mg aspirin, 324 mg phenacetin and 64 mg caffeine Fatigued from graph 30 and 32 yr old nursing mothers ADULTS: BLOOD PLASMA: MILK: ANALGESICS; DRUGS: NARCOTICS; CAFFEINE: LACTATION	Findlay, J.H.A., Dorland, R.L., Kearney, R.P., Vetch, R.W., Findlay, J.H., 1981 Clinical Pharmacology and Therapeutics 29(5):625-633
7296 Blood, plasma	Injection Ingestion	BIA	6	a) 195-340 mg/ml b) 102-140 mg/ml	a) 264 mg/ml b) 117 mg/ml	a) 65 mg, IM, as phosphate b) 65 mg, oral, as phosphate Peak levels, at 0.25-1 hr (a) and 0.75-1 hr (b). Healthy 18-21 yr olds BLOOD PLASMA: DRUGS: NARCOTICS; MEASUREMENT METHODS	Findlay, J.H.A., Butz, R.F., Vetch, R.W., 1975a, R.W., Clinical Pharmacology and Therapeutics 22(4):439-446
7297 Fetus			1	Not applicable	0.02 mg/kg	2100 g fetus. Mother dependent > 4 yr. Stillborn infant of heroin-dependent mother Death from intrauterine anoxia and acute intoxication. FETUS: INFANTS: BLOOD: BRAIN: KIDNEYS: LIVER: LUNGS: ANALGESICS; DRUG ABUSE: DRUGS: NARCOTICS; METABOLISM: NITROGENS	Cravey, R.H., Weed, D., 1981 Clinical Toxicology 18(8):911-914
7298 Lung		BIA GC/MS	1	Not applicable	0.02 mg/kg	2100 g fetus. Mother dependent > 4 yr. Morphine level 0.20 mg/kg Stillborn infant of heroin-dependent mother Death from intrauterine anoxia and acute intoxication. FETUS: INFANTS: BLOOD: BRAIN: KIDNEYS: LIVER: LUNGS: ANALGESICS; DRUG ABUSE: DRUGS: NARCOTICS; METABOLISM: NITROGENS	Cravey, R.H., Weed, D., 1981 Clinical Toxicology 18(8):911-914

(NEXT PAGE)

Norphine- α -ol, 7,8-dihydro- α ,5-epoxy-3-methoxy-17-methyl- (8 CI)
 Naloxone- α -ol, 7,8-dihydro- α ,5-epoxy-3-methoxy-17-methyl-, (Salpho, Galpho) - (9 CI)
 C10-821-8-03
 MW 299.36, MP 154-156 C (after drying at 80 C)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7299 Milk	Ingestion	BTA	2	a) 530-20 mg/ml b) 2-20 mg/ml c) 500-5 mg/ml d) 8-3 mg/ml	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 1 and 12 hr. Initial measurement 105 ng/ml at 0.5 hr. subject 1 b) 0.5 and 12 hr. Metabolite (morphine), subject 1 c) 1.5 and 14 hr. Initial measurement 300 ng/ml at 1.0 hr. subject 2 d) 12 and 36 hr. Metabolite (morphine), subject 2 Total 60 mg phosphate, plus 450 mg aspirin, 120 mg phenacetin and 40 mg caffeine Estimated from graph 10 and 32 yr old nursing mothers	Vinday, J.M.H., Deangelis, E.L., Kearney, M.W., Welch, S.W., Vinday, J.M., 1991 Clinical Pharmacology and Therapeutics 29(5):625-633
7300 Urine	Injection	BTA GC/MS	1	Not applicable	0.14 mg/dl	Suspected cocaine overdose fatality 37 yr old, Los Angeles County, CA CALIFORNIA; AUTOPSIES; BILE; BLOOD; URINE; DRUG ABUSE; DRUGS; NARCOTICS; FORENSIC MEDICINE; INHALATION	Makara, G.R., Hoguchi, T.T., 1991 Clinical Toxicology 18(3):895-905

Nicotine (8 CI)
 Pyridine, 3-(1-ethyl-2-pyrrolidinyl)-, (5)- (9 CI)
 C10-H18-N2
 MW 162.23, BP < -80 C, BP 247 C (partial decomp) at 745 mm Hg, VP 1 mm Hg at 61.3 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7301 Blood, plasma	Inhalation Oral absorption		163	a) 6.2-91.2 ngol/l b) 4.6-165.8 ngol/l c) 57.3-442.8 ngol/l d) 78.9-797.2 ngol/l e) 37.0-474.7 ngol/l f) 66.6-431.6 ngol/l g) 430-295 ngol/l h) 800-450 ngol/l	a) 37.9 ngol/l b) 72.8 ngol/l c) 222.3 ngol/l d) 468.9 ngol/l e) 226.3 ngol/l f) 296.5 ngol/l g) Not given h) Not given	a) 3 subjects, never used snuff, range 3.7-102.3 ngol/l before snuffing, mean decrease after snuffing 3.1 ngol/l b) 10 occasional snuffers, range 0-100.0 ngol/l before snuffing, mean increase after snuffing, 12.3 + or - 20.3 ngol/l c) 8 daily snuffers, range 22.2-238.6 ngol/l before snuffing, mean increase after snuffing, 77.7 + or - 70.6 ngol/l d) 5 multiple dose snuffers, range 0-241.7 ngol/l before snuffing, mean increase after snuffing, 332.9 + or - 199.1 ngol/l e) 136 heavy cigarette smokers 2 min after finishing cigarette, mean increase after 1 cigarette 82.3 ngol/l f) 1000 heavy cigarette smokers, 15 rapid smokers (1 puff every 6 min), mean tolerance level 43 ngol/l (1.7 cigarettes) g) 1 subject, range over 15 min after 8 g snuff in 60 s h) 1 subject, range over 40 min after 50 small spoon snuff in 95 s a) - d) level 1-7 min after a pinch of snuff i) 1000 heavy cigarette smokers, levels probably controlled by amount of self usage in smokers and snuffers. Substitution of snuff for cigarette smoking reduced risk of lung cancer, bronchitis, emphysema, with some increased risk of cancer of nasopharynx or mouth.	Rosenberg, J. Jennett, G.J. Jarvis, G.J. Devitt, G.J. Petersen, C. 1981 British Medical Journal 283(6295):816-817
7302 Blood, plasma	Injection	GC	6	a) 3-28 ng/ml b) 4-27 ng/ml	a) Not given b) Not given	27 snuff users at setting in Wellington, Somerset, United Kingdom 136 heavy cigarette smokers at smokers' clinic, Maudsley Hospital UNITED KINGDOM: ADULTS: BLOOD PLASMA: NICOTINE: METABOLITES: METABOLITES: SMOKING: TOBACCO a) 0 and 10 min after start of 2 ng/kg/min IV for 10 min. 7 ng/ml at 70 min. Acid urine b) 0 and 10 min after start of 2 ng/kg/min IV for 10 min. 9 ng/ml at 70 min. Alkaline urine Range of excretion, excreted from graph Healthy 21-35 yr old smokers (1-2 packs/day) BLOOD PLASMA: DRUGS: NICOTINE	Rosenberg, J. Jennett, G.J. Jarvis, G.J. Devitt, G.J. Petersen, C. 1980 Clinical Pharmacology and Therapeutics 28(4):517-522

Nitroglycerin (8 CI)
1,2,3-Propenitrol, trinitrate (9 CI)
55-63-0
C3-85-W3-09
MW 227.09, MP 2.8 C (labile), 13.5 C (stable)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUMMARY OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7303 Blood	Dermal	GC	8	a) 0.15-0.18 ng/ml b) 0.16-0.47 ng/ml c) 0.37-0.28 ng/ml d) 0.20-0.88 ng/ml	a) 0.17 ng/ml b) 0.41 ng/ml c) Not given d) Not given	a) Peaks, 10 min after 16 mg to 25 mg ca. <0.05 ng/ml at 90 min (3 subjects) b) Peaks, 45 min after 16 mg to 100 mg ca. 0.16-0.32 (mean 0.25) ng/ml at 90 min. (3 subjects) c) 60 and 90 min after 16 mg to 100 mg ca. 0.31 ng/ml at 30 min (1 subject) d) 30 and 60 min after 12 mg to 100 mg ca. 0.83 ng/ml at 90 min (1 subject) 24 ointment applied to chest Healthy adults ADULTS; DRUGS: VASODILATORS; BLOOD	Sted, S. McLean, W.A. McIlverey, I.J. 1981 Journal of Pharmacological Sciences 70(12): 1368-1369

Calic acid (8 CI)
Ithanedioic acid (9 CI)
144-52-7
C2-82-04
MW 90.04, MP 101-102 C, SP 150 C (sublimes)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUMMARY OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7304 Urine	Ingestion	Radiochemistry	a) 15 b) 21 c) 4 d) 7	a) Not given b) Not given c) Not given d) Not given	a) 0.49 +or- 0.07 b) 0.68 +or- 0.14 c) 0.70 +or- 0.39 d) 1.20 +or- 0.75	a) Controls b) Ca oxalate stone formers c) Ileocecal resection patients d) End to side jejunoileal bypass patients 36 hr excretion after 8 mg (60 u mol). No oxalate and 2.5 ucl of [C-14] oxalate after overnight fast d) significantly different from a) and b). Patients and normal controls on no other drugs before or during study. ORIG: MINERAL DEPOSITS; MINERAL METABOLISM; SWEDEN	Tiselius, H.-G. Thelander, C. Lundstrom, A. Nilsson, M.-A. 1981 Clinical Chemistry 27(10): 1682-1685

phenethylamine, alpha-methyl-, (+) - (8 CI)
phenethanamine, alpha-methyl-, (5) - (9 CI)
1-68-9
C9-H13-N
MW 135.20, BP 200-203 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7307 Urine	Ingestion	GC	12	a) Not given b) Not given c) Not given	a) 26% of dose b) 25% of dose c) 28% of dose	a) After 5 mg/70 kg b) After 10 mg/70 kg c) After 15 mg/70 kg 12 hr cumulative excretion Healthy 21-30 yr olds Severity of symptoms increased with dose (evaluated by modified Cornell Medical Index) URINE: AUTOMATIC DRUGS; DRUGS; PSYCHOTROPIC DRUGS	Evans, W.A. Umbach, G. Griffin, L. Martz, R. Krohn, D.J. Kodda, S.E. Fenstermaker, L. 1977, R.S. Journal of Forensic Sciences 22(1):197-201

Phenethylamine, alpha-methyl-, (-)- (8 CI)
 Mephedrone, alpha-methyl-, (-)- (9 CI)
 C9-H13-N
 MW 135.20, BP 200-203 C at 760 mm Hg, 82-85 C at 13 mm Hg

TISSUE	BIOSOURCE FORTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	DEATH	GENERAL INFORMATION	REFERENCE
7308 Blood	Injection	TLC Fluorometry	1	Not applicable	0.7 mg/100 mg	Lethal overdose 22 yr old, Netherlands AUTOPSIES: BLOOD; BRAIN; KIDNEYS; LIVER; LUNGS; MUSCLES; URINE; DRUG ABUSE; DRUGS; PSYCHOTROPIC DRUGS; FORENSIC MEDICINE; NETHERLANDS	van Hoof, P., Heyndrickx, A., Tijssen, J., 1978 Archives of Toxicology 32:307-312
7309 Blood, plasma	Ingestion	Enzymatic	2	a) 81-15 mg/ml b) 10-71 mg/ml c) 128-20 mg/ml d) 96-10 mg/ml	a) Not given b) Not given c) Not given d) Not given	a) 5 and 27 hr after 0.23 mg/kg (free base), as 4-aminobutylamine sulfate. Initial measurement 51 mg/ml at 2 hr b) 1 and 3 hr after 0.23 mg/kg (free base), as 4-aminobutylamine sulfate. Final measurement 13 mg/ml at 24 hr c) 3 and 25 hr after 0.5 mg/kg (free base), as 4-aminobutylamine sulfate. Initial measurement 51 mg/ml at 1 hr d) 1 and 30 hr after 0.5 mg/kg (free base), as 4-aminobutylamine sulfate. Estimated from graph BLOOD PLASMA; DRUGS; PSYCHOTROPIC DRUGS; MEASUREMENT METHODS	Krausz, D.S., Heyndrickx, A., Tijssen, J., 1978 Science 183(4123):420-421
7310 Brain	Injection	TLC Fluorometry	1	Not applicable	0.3 mg/100 mg	Lethal overdose 22 yr old, Netherlands AUTOPSIES: BLOOD; BRAIN; KIDNEYS; LIVER; LUNGS; MUSCLES; URINE; DRUG ABUSE; DRUGS; PSYCHOTROPIC DRUGS; FORENSIC MEDICINE; NETHERLANDS	van Hoof, P., Heyndrickx, A., Tijssen, J., 1978 Archives of Toxicology 32:307-312
7311 Kidney	Injection	TLC Fluorometry	1	Not applicable	1.9 mg/100 mg	Lethal overdose 22 yr old, Netherlands AUTOPSIES: BLOOD; BRAIN; KIDNEYS; LIVER; LUNGS; MUSCLES; URINE; DRUG ABUSE; DRUGS; PSYCHOTROPIC DRUGS; FORENSIC MEDICINE; NETHERLANDS	van Hoof, P., Heyndrickx, A., Tijssen, J., 1978 Archives of Toxicology 32:307-312
7312 Liver	Injection	TLC Fluorometry	1	Not applicable	1.2 mg/100 mg	Lethal overdose 22 yr old, Netherlands AUTOPSIES: BLOOD; BRAIN; KIDNEYS; LIVER; LUNGS; MUSCLES; URINE; DRUG ABUSE; DRUGS; PSYCHOTROPIC DRUGS; FORENSIC MEDICINE; NETHERLANDS	van Hoof, P., Heyndrickx, A., Tijssen, J., 1978 Archives of Toxicology 32:307-312
7313 Lung	Injection	TLC Fluorometry	1	Not applicable	1.7 mg/100 mg	Lethal overdose 22 yr old, Netherlands AUTOPSIES: BLOOD; BRAIN; KIDNEYS; LIVER; LUNGS; MUSCLES; URINE; DRUG ABUSE; DRUGS; PSYCHOTROPIC DRUGS; FORENSIC MEDICINE; NETHERLANDS	van Hoof, P., Heyndrickx, A., Tijssen, J., 1978 Archives of Toxicology 32:307-312
7314 Muscle	Injection	TLC Fluorometry	1	Not applicable	0.4 mg/100 mg	Lethal overdose 22 yr old, Netherlands AUTOPSIES: BLOOD; BRAIN; KIDNEYS; LIVER; LUNGS; MUSCLES; URINE; DRUG ABUSE; DRUGS; PSYCHOTROPIC DRUGS; FORENSIC MEDICINE; NETHERLANDS	van Hoof, P., Heyndrickx, A., Tijssen, J., 1978 Archives of Toxicology 32:307-312

(NEXT PAGE)

(CONTINUED)

Phenethylamine, alpha-methyl-, (S)- (9 CI)
 Benzenethanamine, alpha-methyl-, (S)- (9 CI)
 300-62-9
 C9-813-W
 MW 135.20, BP 200-203 °C at 760 mm Hg, 92-95 °C at 13 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
Urine	Injection	TLC Fluorometry	1	Not applicable	24-2 mg/100 mg	Lethal overdose 22 yr old, Netherlands AUTOPSY: BLOOD: BRAIN: KIDNEYS: LIVER: LUNGS: MUSCLES: URINE: DRUG LENSE: DRUGS: PSYCHOTROPIC DRUGS: FORENSIC MEDICINE: NETHERLANDS	van Hoof, P. Heydricks, A. Hagenaars, J. Archives of Toxicology 32:107-112

Phenol, p-(dimethylamino)-, hydrochloride (8 CI)
 Phenol, 4-(dimethylamino)-, hydrochloride (9 CI)
 882-46-4
 C10H12N2O.Cl-H
 MW 173.66

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
Urine	Injection	TLC Colorimetry	6	a) 23.2-50.7% b) 8.7-18.5% c) 12.1-17.5% d) 59.9-74.4% e) 6.9-15.4% f) 0.3-0.7%	a) 40.7 ± 0.2- 4.3% b) 11.6 ± 0.2- 1.6% c) 15.3 ± 0.2- 1.6% d) 67.6 ± 0.2- 4.2% e) 9.4 ± 0.2- 2.3% f) 0.5 ± 0.2- 0.1% S.E.	a) 4-dimethylaminophenol (DMAP)-glucuronide b) DMAP-SOA c) DMAP-thioethers d) a)+b)+c) e) Tri-(p-acyl)-DMAP f) Tri-(p-acyl)-DMAP Metabolites in 24 hr urine after 3.2 mg DMAP-HCl/kg IV 5 or 6 days Healthy volunteers, wt 70-90 kg ADULTS: URINE: DRUGS: METABOLITES: METABOLITES	Jacobs, P. Szmielek, L. Peyer, P. 1981 Archives of Toxicology 47:39-45

Phenol, 2-(3-ethylphenylhydroxy)-1-methyl-10-azepin-3-yl-
 54880-59-8
 C15H23NO
 MW 233.39

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
Urine Blood Plasma	Injection	HPLC	26	a) 22-343 ng/ml b) 16-124 ng/ml c) 13-47 ng/ml d) 3-7 ng/ml e) <3-4 ng/ml f) <3-3 ng/ml g) <3 ng/ml	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) Maternal levels (12 subjects) b) Initial neonatal levels (13 subjects) c) Neonatal levels at 8 hr after birth (7 subjects) d) Neonatal levels 8 hr after birth (2 subjects) e) Neonatal levels 12 hr after birth (6 subjects) f) Neonatal levels 18 hr after birth (5 subjects) g) Neonatal levels 24 hr after birth (6 subjects) Maternal dose 100-150 mg in about 3 hr before delivery, preceded in 3 cases by 1 or 2 doses at 3 hr intervals. Pregnant women 55-91 kg (mean 72 kg) ADULTS: NEWBORN: BLOOD: ANALGESICS: DRUGS: PREGNANCY	Franklin, R.A. Frost, T. Robson, P.J. Jackson, R.A. 1981 British Journal of Clinical Pharmacology 12:188-90

Phenol, 4-(2-hydroxy-3-((1-methylethyl)amino)propoxy)-, (S)-
5726-61-5
C12-H19-N-O3
MW 225.3

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7318 Blood, Plasma	Injection Ingestion	GC/MS	6	a) 180-1 nmol/l b) 15 nmol/l c) 21-3 nmol/l d) 60-3 nmol/l	a) Not given b) Not given c) Not given d) Not given	a) Initial and 8 hr measurement after 2.5 mg IV b) 0.5 and 8 hr after 2.5 mg, oral. Initial measurement 15 nmol/l at 15 min c) 0.5 and 8 hr after 5.0 mg oral. Initial measurement 18 nmol/l at 15 min d) 0.5 and 8 hr after 10 mg, oral. Initial measurement 58 nmol/l at 15 min Mean maximum level of metabolites was 273 nmol/l at 1-1.5 hr for 2.5 mg oral dose and 58 nmol/l at 3 hr for a 2.5 mg IV dose Femur of mouse Healthy 22-25 yr olds Moderate increase in heart rate and systolic pressure. No effect on diastolic pressure. IV and maxims oral dose resulted in a feeling of tension and palpitations BLOOD PLASMA: ANTIMETIC DRUGS; DRUGS	Graffner, C. Hoffman, K.-J. Johnson, G. Lundberg, P. Ronn, O. 1981 European Journal of Clinical Pharmacology 20:91-97

Phenothiazine, 10-(2-(diethylamino)propyl)- (8 CI)
60-Phenothiazine-10-ethanamine, N,N.alpha-triethyl- (9 CI)
C17-H20-N-S
MW 286.4: BP 140-192 C at 3 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7319 Blood, Plasma	Ingestion Rectal	HPLC	6	a) Not given b) Not given c) Not given d) Not given	a) 39.2 $\pm$ 8.2 mg/ml b) 11.2 $\pm$ 2.6 mg/ml c) 10.2 $\pm$ 2.4 mg/ml d) 7.5 $\pm$ 2.7 mg/ml	a) 2.5 $\pm$ 0.6 hr after 50 mg in solution, oral b) 2.5 $\pm$ 0.6 hr after 25 mg in solution, oral c) 3.8 $\pm$ 0.7 hr after 25 mg in solution, rectal d) 5.2 $\pm$ 0.9 hr after 25 mg in suppository, rectal Peak levels As hydrochloride Healthy volunteers, 21-27 yr old, 58-84 kg Severe local irritation with rectal dose of 50 mg ADULTS: BLOOD SERUM: ANESTHETICS; DRUGS: SEDATIVES; ANTIHISTAMINE; COMPARATIVE EVALUATION	Kooleaar, P. Ensing, J.G. Bohman, B.G. Visser, J. 1981 International Journal of Pharmacokinetics 9:353-357

Phenothiazine, 10-(3-(4-ethyl-1-piperazinyl)propyl)-2-(trifluoromethyl)- (9 CI)
 10H-phenothiazine, 10-(3-(4-methyl-1-piperazinyl)propyl)-2-(trifluoromethyl)- (9 CI)
 117-89-5
 C21-M24-P3-E3-S
 MS 407.89, BP 202-210 C at 0.6 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7320 Blood, Plasma		Radioceptor assay	a) 1 b) 1 c) 1 d) 1	a) < 1.0 ng/ml b) 2.0-6.5 ng/ml c) 2.6-19.6 ng/ml d) 9.3-12.5 ng/ml	a) Not given b) Not given c) Not given d) Not given	a) 8 mg/day b) 15 mg/day c) 15 mg/day d) 30 mg/day Range of weekly means. Treated 3 wk. Not affected by dieting or 2 [8230] 1217-1218 Mentally retarded patients with psychotic disturbances. NEW ZEALAND: ADULTS: BEHAVIOR DISORDERS; MENTAL IMPAIRMENT; BLOOD PLASMA; PSYCHOTROPIC DRUGS; COMPARATIVE EVALUATIONS; DIETS; DRUGS; CAFFEINE	Jensen, S. Taylor, E.M. Gibb, I.A. McL. 1981 Lancet [8230] 1217-1218
7321 Blood, Plasma	Ingestion	GC	a	0.93-3.97 ng/ml	Not given	Range of peak values 3-6 hr after 20 mg as hydrochloride Psychiatric patients CENTRAL NERVOUS SYSTEM DISEASES; BLOOD PLASMA; DRUG THERAPY; DRUGS; PSYCHOTROPIC DRUGS; MEASUREMENT METHODS	Gillespie, T.J. Simpson, I.G. 1981 Journal of Chromatography 223:95-102
7322 Blood, Plasma		GC	a) 2 b) 2 c) 3 d) 3 e) 3 f) 2	a) 0.2-0.5 ng/ml b) 0.2-2.0 ng/ml c) 2.0-3.0 ng/ml d) 7.5-10.0 ng/ml e) 9.9-10 ng/ml f) 9.9-10 ng/ml	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 7 mg/day b) 10 mg/day c) 25 mg/day d) 25 mg/day e) 40 mg/day f) 60 mg/day Steady state levels, estimated from graph Schizophrenic patients undergoing therapy BLOOD PLASMA; DRUG THERAPY; DRUGS; TRANQUILLIZERS; MEASUREMENT METHODS	Javadi, J.I. Behrmanian, G. Gier, J. 1982 Journal of Pharmacological Sciences 71(1):63-66

Phenothiazine, 2-chloro-10-(3-(diethylamino)propyl)- (8 CI)
 10H-phenothiazine-10-propamine, 2-chloro-N,N-dimethyl- (9 CI)
 107-89-5
 C17-R19-C1-M2-S
 MS 316.89

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7323 Blood			1	a) Not applicable b) 0.0-0.1 ng/ml	a) 0.5 ng b) Not given	a) VAP-2 resin extraction b) Solvent extraction, 2 methods Fetal poisoning AUTOPSIES; BLOOD; BRAIN; KIDNEYS; LIVER; DRUG ABUSE; DRUGS; FORENSIC MEDICINE; MEASUREMENT METHODS	Rouzer, H. Gier, J. Siala, J. 1978a Archives of Toxicology 81:153-162
7324 Blood		GC UV	1	a) Not applicable b) Not applicable	a) 0.8 ng/100g b) 1.9 ng/100g	a) Solvent extraction method b) VAP-2 resin bag extraction method Fetal overdose case Poland POLAND: BLOOD; BRAIN; LIVER; DRUG ABUSE; DRUGS; MEASUREMENT METHODS	Rouzer, H. Gier, J. Siala, J. 1978b Forensic Science International 12:73-82

(NEXT PAGE)

Phenothiazine, 2-chloro-10-(3-(diethylamino)propyl)- (0 CI)
 100-phenothiazine-10-propansine, 2-chloro-8,8-dimethyl- (9 CI)
 50-53-3
 C17-819-C1-82-3
 MS 316.69

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7325 Blood, plasma		Radioreceptor assay	a) 1 b) 1 c) 1 d) 1	a) 5.8-29.3 ng/ml b) 49.5-67.5 ng/ml c) 28.3-81.6 ng/ml d) 50.3-161.5 ng/ml	a) Not given b) Not given c) Not given d) Not given	a) 100 mg/day b) 200 mg/day c) 300 mg/day d) 600 mg/day Range of weekly means. Treated 3 wk. Absence of coffee and tea during wk 2 did not increase bioavailability. Mentally retarded patients with psychotic disturbances. NEW ZEALAND: ADULTS: BEHAVIOR DISORDERS: MENTAL RETARDATION: BLOOD PLASMA: PSYCHOTROPIC DRUGS: COMPARATIVE EVALUATIONS: DIETS: DRUGS: CAFFEINE	Reese, S. Tabor, R.A. Gibson, I.A. et al. 1981 Lancet 1(823): 1217-1218
7326 Blood, plasma		RP/C		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 27.6 $\pm$ 6.4 ng/ml b) 51.3 $\pm$ 21.2 ng/ml c) 41.0 $\pm$ 8.4 ng/ml d) 44.7 $\pm$ 19.9 ng/ml e) 15.3 $\pm$ 4.9 ng/ml f) 85.2 $\pm$ 18.0 ng/ml	a) Week 5, without propranolol, 7 cases b) Week 5, with propranolol, 7 cases c) Week 6, without propranolol, 6 cases d) Week 6, with propranolol, 6 cases e) Week 7, without propranolol, 6 cases f) Week 7, with propranolol, 6 cases Dose 2.5-13.8 mg/kg (mean 6.7 mg/kg)/day for 7 wk with or without 4.6-10.0 mg/kg/day propranolol. 31-56 yr old schizoprenics BLOOD PLASMA: BLOOD SERUM: ANTIARRHYTHMIC AGENTS: DRUG INTERACTION: DRUGS: TRANQUILIZERS: METABOLITES: BEHAVIOR DISORDERS	Peet, N. Middlemas, D.M. Yates, R.A. 1980 Lancet 2(820): 978
7327 Blood, serum		RIA		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 87.9 $\pm$ 26.8 ng/ml b) 119.9 $\pm$ 13.6 ng/ml c) 91.0 $\pm$ 15.5 ng/ml d) 126.5 $\pm$ 24.1 ng/ml e) 77.0 $\pm$ 18.0 ng/ml f) 87.5 $\pm$ 11.3 ng/ml	a) Week 5, without propranolol, 7 cases b) Week 5, with propranolol, 7 cases c) Week 6, without propranolol, 6 cases d) Week 6, with propranolol, 6 cases e) Week 7, without propranolol, 6 cases f) Week 7, with propranolol, 6 cases Dose 2.5-13.8 mg/kg (mean 6.7 mg/kg)/day for 7 wk with or without 4.6-10.0 mg/kg/day propranolol. 31-56 yr old schizoprenics BLOOD PLASMA: BLOOD SERUM: ANTIARRHYTHMIC AGENTS: DRUG INTERACTION: DRUGS: TRANQUILIZERS: METABOLITES: BEHAVIOR DISORDERS	Peet, N. Middlemas, D.M. Yates, R.A. 1980 Lancet 2(820): 978
7328 Tissue			2	a) 0.7-1.5 mg% b) 0.1-1.9 mg%	a) Not given b) Not given	a) 10-2 resin extraction b) Solvent extraction, 2 methods Fatal poisoning AUTOPSIES: BLOOD: BRAIN: KIDNEYS: LIVER: DRUG ABUSE: DRUGS: FORENSIC MEDICINE: MEASUREMENT METHODS	Boysen, M. Gier, J. Sakuma, J. 1978 Archives of Toxicology 41:153-162

(NEXT PAGE)

Phenothiazine, 2-chloro-10-(3-(diethylamino)propyl)- (8 CI)
 100-Phenothiazine-10-propanamine, 2-chloro-N,N-dimethyl- (9 CI)
 50-53-3
 C17-W19-Cl-W2-5
 BR 318.65

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7229 Brain		GC UV	1	a) Not applicable b) Not applicable	a) 2.3 mg/100g b) 5.7 mg/100g	a) Solvent extraction method b) XAD-2 resin bag extraction method Fatal overdose case Poland POLAND: BLOOD; BRAIN; LIVER: DRUG ABUSE: DRUGS; MEASUREMENT METHODS	Boquez, M. Gierz, J. Bialka, J. 1978b Forensic Science International 12:73-82
7230 Kidney			2	a) 0.5-5.3 mg% b) 0.2-3.7 mg%	a) Not given b) Not given	a) XAD-2 resin extraction b) Solvent extraction, 2 methods Fatal poisoning AUTOPSIES: BLOOD; BRAIN; KIDNEYS; LIVER: DRUG TOXICS; DRUGS; FORENSIC MEDICINE; MEASUREMENT METHODS	Boquez, M. Gierz, J. Bialka, J. 1978a Archives of Toxicology 41:153-162
7231 Liver			2	a) 1.1-11.8 mg% b) 0.8-11.3 mg%	a) Not given b) Not given	a) XAD-2 resin extraction b) Solvent extraction, 2 methods Fatal poisoning AUTOPSIES: BLOOD; BRAIN; KIDNEYS; LIVER: DRUG TOXICS; DRUGS; FORENSIC MEDICINE; MEASUREMENT METHODS	Boquez, M. Gierz, J. Bialka, J. 1978a Archives of Toxicology 41:153-162
7232 Liver		GC UV	1	a) Not applicable b) Not applicable	a) 11.6 mg/100g b) 23.1 mg/100g	a) Solvent extraction method b) XAD-2 resin bag extraction method Fatal overdose case Poland POLAND: BLOOD; BRAIN; LIVER: DRUG ABUSE: DRUGS; MEASUREMENT METHODS	Boquez, M. Gierz, J. Bialka, J. 1978b Forensic Science International 12:73-82

Phosphonic acid, (1,2-epoxypropyl)-, (1R,2R)-(-)- (8 CI)
 Phosphonic acid, (3-methylolpropyl)-, (2R,3R)- (9 CI)
 2355-02-4
 C3-W7-04-P
 MW 138.1, MP approx 94 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7233 Blood, serum	Injection Ingestion	Microbiological	7	a) 132-4.5 ug/ml b) 259-6.8 ug/ml c) 0.2-7.1 ug/ml d) 0.3-5.4 ug/ml	a) Not given b) Not given c) Not given d) Not given	a) Initial level and 8 hr after 20 mg/kg IV b) Initial level and 8 hr after 40 mg/kg IV c) 0.25 and 2 hr after 20 mg/kg oral. d) 0.25 and 2 hr after 40 mg/kg oral. Fetal measurement 0.7 ug/ml at 24 hr Fetal measurement 1.3 ug/ml at 24 hr Range of results, estimated from graph Healthy 25-56 yr olds BLOOD SERUM: URINE; ANTIBIOTICS; DRUGS	Goto, N. Sekiya, N. Makiyama, S. Yamashita, H. 1981 Antimicrobial Agents and Chemotherapy 20(3):393-397

(NEXT PAGE)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
Urine	Injection Ingestion	Microbiological	7	a) 78-83% of dose b) 18-21% of dose	a) Not given b) Not given	a) 24 hr output after 20 or 40 mg/kg IV dose b) 24 hr output after 20 or 40 mg/kg oral dose Range of means, estimated from graph	Goto, W. Sugiyama, M. Fukushima, S. Fukushima, M. 1981 Antimicrobial Agents and Chemotherapy 20 (3):393-397
						Healthy 25-56 yr olds BLOOD SERUM: URINE: ANTIBIOTICS, DRUGS	

Phosphorus
7723-14-0

mp 30.97376, mp 48.1 C, bp 280 C, vp 10 mm Hg at 127 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7335 Blood, serum		Chem	100	a) Not given b) Not given c) Not given d) Not given	a) 3.76 μ g - 0.65 mg/100 ml b) 3.53 μ g - 0.80 mg/100 ml c) 3.85 μ g - 0.72 mg/100 ml d) 3.59 μ g - 0.85 mg/100 ml	a) 75 women lactating 2 mo or more b) 25 women from a) c) Women in b), 1 mo. after supplementation with 500 mg Ca and vitamin D daily d) 25 non-lactating controls, no supplement 22-38 yr olds, North India Serum chemistry suggested osteomalacia, but radiographs of pelvis and dorsolumbar spine showed no abnormalities. OSTEOMALACIA: DIETS: LACTATION: PREGNANCY: CALCIUM: PHOSPHORUS: VITAMIN D: BONE DISEASES: NUTRITIONAL DEFICIENCIES: NUTRITIONAL DISORDERS: BLOOD SERUM	Parry, R.K. Atkes, S. Atkes, S.R. 1981 Annals of Nutritional Metabolism 25: 56-64
7336 Blood, serum	Injection		1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable	a) 6.2 mg/100 ml b) 21.4 mg/100 ml c) 8.1 mg/100 ml d) 5.6 mg/100 ml e) 3.9 mg/100 ml f) 4.5 mg/100 ml	a) 13 mo before admission b) At admission, 12 hr after Fleet enema (8 mg phosphate) c) Day 2, 8 mg phosphate d) 8 mg Ca chloride, 80 mg Mando, all IV e) Day 3, additional 90 mg Ca and 40 mg Mando f) Day 4 g) Day 5 h) Day 6 i) Day 7 4.5 yr old with chronic renal failure Cardiopetal spasm, hyperventilation, diarrhea, tachycardia CHILDREN: KIDNEY DISEASES: BLOOD SERUM: CALCIUM: PHOSPHORUS	Orard, S.C. O'Sell, J. Crupe, W.E. 1974 Pediatrics 53(1):105-106

----- NEXT PAGE -----

Phosphorus
723-10-0

Age 30.97376, BP 66.1 C, BP 280 C, VP 10 mm Hg at 127 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	SEAN	GENERAL INFORMATION	REFERENCE
7337 Blood, serum			a) 10 b) 20 c) 20	a) 4.2-5.7 mg/100 ml b) 4.2-5.1 mg/100 ml c) 4.3-5.0 mg/100 ml	a) 4.7 mg/100 ml b) 4.6 mg/100 ml c) 4.7 mg/100 ml	a) Controls, non-nutrient supplement plus lactose-containing placebo b) High protein-vitamins liquid supplement plus mineral capsule 6 days/week c) Supplement and mineral capsule as in b) plus 40 mg as carbonate, 6 days/week Range of means over 20 months No supplements during 4 mo summer vacation Significantly increased At, wt, and bone ages in boys receiving Ia during final 12 mo of supplementation, despite subnormal Ia levels in plasma throughout study P levels in low normal range during study 13 yr old prepubertal village schoolboys, southern Iran IRAN: ADOLESCENTS: NUTRITIONAL DEFICIENCIES: BLOOD PLASMA: BLOOD SERUM: ERYTHROCYTES: CALCIUM: IRON: PHOSPHORUS: ZINC: BIRTHS	Konaghy, R.A. Reinhold, J.G. Makladji, M. Chavani, P. Spivey Fox, R. S. Vigstad, J.A. 1975 American Journal of Clinical Nutrition 27(2):112-121
7338 Urine	Ingestion	Colorimetry	8	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 535 + or - 20 mg/day b) 531 + or - 20 mg/day c) 514 + or - 20 mg/day d) 757 + or - 48 mg/day e) 545 + or - 27 mg/day f) 896 + or - 62 mg/day g) 435 + or - 58 mg/day h) 795 + or - 79 mg/day	a) 889 mg/day b) 1343 mg/day c) 928 mg/day d) 1557 mg/day e) 895 mg/day f) 1345 mg/day g) 920 mg/day h) 1873 mg/day Metabolic research ward patients ILLINOIS: GRIEF: CALCIUM: FLUORIDE: PHOSPHORUS: METABOLISM	Spencer, H. Osis, D. Kraus, L. Kraus, L. Morris, C. 1975 Journal of Nutrition 105:733-740

Piperazine, 1-(4-amino-6,7-dimethoxy-2-quinazolinyl)-4-(2-furoyl) - (8 CI)
 1-(4-amino-6,7-dimethoxy-2-quinazolinyl)-4-(2-furoylcarboxyl) - (9 CI)
 C19-821-85-08
 MW 382.42, BP 278-280 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7339 Blood, Plasma	Injection Ingestion	RP/LC	8	a) 23-48 ng/ml b) 3.3-13.0 ng/ml c) 1.3-6.8 ng/ml d) 4.9-11.4 ng/ml e) 7.9-18.6 ng/ml f) 11.3-33.0 ng/ml g) 13.3-21.3 ng/ml h) Not applicable	a) Not given b) 6.7 $\pm$ 0.2 c) 3.3 $\pm$ 0.2 d) 7.6 $\pm$ 0.2 e) 12.8 $\pm$ 0.2 f) 20.5 $\pm$ 0.2 g) 16.5 $\pm$ 0.2 h) 30.0 ng/ml	a) Peak, after 0.5 mg, IV, 8 patients. b) Peak, 20 min after 0.5 mg, oral, 8 patients. c) Steady-state level after 0.5 mg, oral, 3x/d for 2 wk, 8 patients. d) Steady-state level after 1 mg, oral, 3x/d for 2 wk, 8 patients. e) Steady-state level after 2 mg, oral, 3x/d for 2 wk, 7 patients. f) Steady-state level after 3 mg, oral, 3x/d for 2 wk, 5 patients. g) Steady-state level after 4 mg, oral, 3x/d for 2 wk, 3 patients. h) Steady-state level after 5 mg, oral, 3x/d for 2 wk, 1 patient. e) Estimated from graph Untreated hypertensives, wt 70-110 kg (mean 82.8 kg) ADULTS: HYPERTENSION; BLOOD PLASMA: ANTIHYPERTENSIVE AGENTS: DRUG THERAPY: DRUGS	Graham, A. Seidman, P. Henderson, B. Henderson, B. von Molt, C. 1981 Clinical Pharmacology and Therapeutics 30(4):439-446
7340 Blood, Plasma		CC Fluorometry	8	a) Not given b) Not given c) Not given d) Not given	a) 6.2 $\pm$ 0.9 ng/ml b) 9.4 $\pm$ 0.5 ng/ml c) 20.3 $\pm$ 3.1 ng/ml d) 37.1 $\pm$ 6.9 ng/ml S.E.	a) Dose 0.5 mg, AUC, 38 $\pm$ 8 ng/ml/hr, 8 subjects b) Dose 1 mg, AUC, 64 $\pm$ 16 ng/ml/hr, 8 subjects c) Dose 2 mg, AUC, 169 $\pm$ 30 ng/ml/hr, 5 subjects d) Dose 4 mg, AUC, 254 $\pm$ 48 ng/ml/hr, 5 subjects Mean peak levels 2 hr after dose Reduced clearance in patients with heart failure 44-67 yr old chronic heart failure patients Postural hypotension at doses of > 1 mg, 3 patients ADULTS: HEART DISEASES: BLOOD PLASMA: DRUG THERAPY: DRUGS	Silke, B. Silke, B.M. Taylor, S.H. 1981 Journal of Cardiovascular Pharmacology 3:329-335

piperidine, 1-(1-phenylcyclohexyl)-
77-10-1
C17-H25-N
89 243.38, mp 46 C, bp 135-137 C at 1 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	SEAS	GENERAL INFORMATION	REFERENCE
73e1 Blood	Inhalation	BIA	200	a) 0.2-82 mg/ml b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable	a) 9.0 mg/ml b) 82 mg/ml c) 16 mg/ml d) 7.6 mg/ml e) 5 mg/ml f) 0 mg/ml	a) 200 patients (mostly teenagers) with mild to severe psychotic symptoms with or without acute schizophrenia b) 16 yr old male, constone, salivating, bizarre movements. Level 43 hr later, 66 mg/ml and 5 d later, 5.6 mg/ml c) 15 yr old male, highly aggressive, violent, homicidal, 2 yr after admission d) 16 yr old male, violent, unconscious, slept 2 days e) 16 yr old male, unmanageable, dangerous to family f) 15 yr old male, disorderly and silly behavior, level in urine, 18 mg/ml Symptoms of intoxication include violent, excited behavior with delusions, hallucinations, agitation. ADOLESCENTS: BLOOD; URINE; DRUG ABUSE; DRUGS	Saul, W. Davidow, B. 1980 Journal of Clinical Pharmacology 20(8):500-505
73e2 Blood		GC	14	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable	a) 27.98 mg/ml b) 3.91 mg/ml c) 70.31 mg/ml d) 0.08 mg/ml e) None detected	a) 38 yr old white male who handled PCP daily b) 2 wk after sample a), continued to handle PCP daily c) 38 yr old white male, no contact with PCP for 6 mo d) 2 wk after sample c) e) 12 controls Law enforcement personnel and upper middle class patients at private hospital (controls), CA, 1980 CULTURE: ADULT; BLOOD; URINE; DRUG ABUSE; DRUGS; PSYCHOTROPIC DRUGS; PHENYL; OCCUPATIONAL HAZARDS	Pitts, P.B. Allen, R.E. Saline, O. 1980, I.S. Clinical Toxicology 18(9):1015-1020
73e3 Blood, plasma	Ingestion	GC/MS	1	91-40 mg/ml	Not given	8 and 9 days after 500 mg overdose, 58 mg/ml on day 7 and 74 mg/ml on day 10. 18 yr old Coma for one week BLOOD PLASMA; URINE; DRUG ABUSE; DRUGS; PSYCHOTROPIC DRUGS	Domino, E.P. Silson, A.E. 1977 Clinical Pharmacology and Therapeutics 22(4):421-424
73e4 Hair	Inhalation	BIA	8	0.3-2.8 mg/kg	Not given	Correlation between extent of drug abuse and levels in hair Drug abusers HAIR: DRUG ABUSE; DRUGS; REASSESSMENT PETROS: PSYCHOTROPIC DRUGS	Reisgarter, A.B. Jones, P.F. Black, C.T. 1981 Journal of Forensic Sciences 26(3):1376-1381

(NEXT PAGE)

Piperidine, 1-(1-phenylcyclohexyl) -
71-10-7
C₁₇H₂₅N
MW 243.36, BP 135-137 C at 1 mm Hg

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7145 Urine	Ingestion	GC/MS	1	1680-90 ug/ml	Not applicable	Range for varying urinary pH values (4.8-7.4). Levels decreased with increasing pH. Data for 3-5 day period starting 6 days after 500 mg overdose. Total amount excreted 11.04 mg (metabolites not measured). 16 yr old Cases for one week BIOD: PLASMA; URINE; DRUG APSE; BIODS: PSYCHOTROPIC DRUGS	Dosato, E.P., Wills, A.E., 1977 Clinical Pharmacology and Therapeutics 22(5):421-424
7346 Urine	Inhalation	BFA	200	a) 0.1-100 ug/ml b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable	a) 13.5 ug/ml b) 100 ug/ml c) 70 ug/ml d) 18 ug/ml e) 16 ug/ml	a) 200 patients (mostly teenagers) with mild to severe psychotic symptoms with or without acute schizophrenic-like, catatonic, or delirious states. b) 3 hr later, 70 ug/ml c) 16 yr old male, unmanageable, dangerous to family. Level on day 10, 15 ug/ml and day 13, 25 ug/ml. d) 15 yr old male, acute psychosis, delusional, used LSD, phenylhydrazine, and marijuana e) 13 yr old male, disorderly and violent, psychotic, serum negative for phenylhydrazine f) 15 yr old female, strange behavior, hyperactive, talkative, pressured speech, serum negative for phenylhydrazine Symptoms of intoxication include violent, aggressive behavior with delusions, hallucinations, agitation. ADCSERPTS: BLOOD; URINE; DRUG APSE: DRUGS	Kaul, E., David, E., 1980 Journal of Clinical Pharmacology 20(9):500-505
7347 Urine	Ingestion Inhalation	GC		0.1-34 ug/ml	0.5 ug/ml	24 of 26 samples positive. Exposure to unknown amount by accidental ingestion or inhalation of smoke in ambient air No correlation between level and severity or duration of symptoms. Children, age 8-52 yr (mean 16 yr) with diagnosis of phenylhydrazine intoxication, CA Dull, trance-like state, agitation alternating with lethargy, horizontal or vertical nystagmus or truncal ataxia. Additionally, some alopecia, hyperemesis, choreoathetoid movements, diminished response to pain, hyperreflexia, hyperthermia, depression. Symptoms lasted 1-100 hr (mild cases) and 16-200 hr (severe cases). CALIFORNIA: CHILDREN: URINE; DRUG APSE: DRUGS; PSYCHOTROPIC DRUGS; INHALATION	Karp, H.H., Kaufman, S.D., Aasand, S.K., 1980 Journal of Pediatrics 97(6):1006-1009

(SEE PAGE)

(CONTINUED)

[illegible]

Coturniculus
440-09-7
MW 39,000, BP 63.2 C, DP 765.5 C, VP 100 mm Hg at 590 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7350 Blood, serum	Ingestion		1	Not applicable	14 mg/l	Accidental ingestion of 8 Slow-K tablets Postmortem, 15 mo old Vomiting, unconsciousness, cyanosis, shallow respiration, quiet heart sounds, peripheral circulatory failure, rigidity, dilated pupils, areflexia, ventricular fibrillation, irregular ventricular rhythm with grossly elongated complexes. AUTOPSY: CHILDREN: BLOOD SERUM: DRUGS: POTASSIUM	Bacon, C. 1978 British Medical Journal 1(5004):389-390

Pregna-1,4-diene-3,11,20-trione, 17,21-dihydroxy-
52-03-2
C21-826-05
MW 358.46, MP 235 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7351 Blood, serum	Ingestion	HPLC	16	a) 125.8-321.8 ug/ml x hr b) 112.8-271.7 ug/ml x hr c) 158.0-297.9 ug/ml x hr d) 137.1-285.9 ug/ml x hr	a) 196.9 ug/ml x hr b) 194.3 ug/ml x hr c) 217.2 ug/ml x hr d) 213.3 ug/ml x hr	a) 5 mg prednisone (Miltacum, Spinal) b) 5 mg prednisone c) 5 mg prednisone d) 5 mg prednisone b), c) & d) from different lots of tablets (Delta-Cortef, Spinal) AUC data 0-12 hr after treatment Healthy 18-55 yr olds, wt 52.2-83.9 kg BLOOD STUDY: ANTI-INFLAMMATORY AGENTS; DRUG INTERACTION; DRUGS; COMPARATIVE EVALUATIONS; METABOLITES	Wagner, J.G. Dissato, A.R. Gillespie, R.B. Albert, R.S. 1981 Research Communications in Chemical Pathology and Pharmacology 32(3):387-405

Pregna-1,4-diene-3,20-dione, 11beta,17,21-trihydroxy- (8 CI)
50-24-8
C21-828-05
MW 360.46, MP 240-241 C (decamp)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7352 Blood, serum	Ingestion	HPLC	16	a) 389.3-1491 ug/ml x hr b) 413.5-1265 ug/ml x hr c) 164.5-1530 ug/ml x hr	a) 785.1 ug/ml x hr b) 738.6 ug/ml x hr c) 775.8 ug/ml x hr	a) 5 mg prednisone b) 5 mg prednisone c) 5 mg prednisone a), b), and c) from different lots of tablets (Delta-Cortef, Spinal) AUC data, 0-12 hr after treatment Healthy 18-55 yr olds, wt 52.2-83.9 kg BLOOD STUDY: ANTI-INFLAMMATORY AGENTS; DRUG INTERACTION; DRUGS; COMPARATIVE EVALUATIONS; METABOLITES	Wagner, J.G. Dissato, A.R. Gillespie, R.B. Albert, R.S. 1981 Research Communications in Chemical Pathology and Pharmacology 32(3):387-405

Pregna-1,4-dione-3,20-dione, 9-fluoro-11beta,17,21-trihydroxy-16beta-ethyl- (6CI)
 Pregna-1,4-dione-3,20-dione, 9-fluoro-11,17,21-trihydroxy-16-methyl-, (11beta,16beta) - (9 CI)

378-84-9

C22-H29-F-O5

EW 372-65, BP 231-234 (dec)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7353 Blood, Fetal	Injection	BIA	a) 14 b) 9 c) 18 d) 17	a) Not given b) Not given c) Not given d) Not given	a) 8.6 $\pm$ 0.9 ug cortisol ug/dl b) 8.6 $\pm$ 0.9 ug cortisol ug/dl c) 8.6 $\pm$ 0.9 ug cortisol ug/dl d) 6.1 $\pm$ 0.9 ug cortisol ug/dl	a) Males. Mother received one of three doses of dexamethasone 1 mg/kg/12-24 hr. Delivery 48 hr after 1st dose. b) Females. Same as in a) c) Males. Mother received a dose of 6 ug/12 hr. Delivery 60 hr after first dose. d) Females. Same as in c) No significant differences Premature infants, 751-1750 gm, CA Incidence of respiratory distress syndrome higher in males. No sex difference in suppression of serum cortisol, dehydroepiandrosterone sulfate, and growth hormone CALIFORNIA: PTUAS; NEWBORN; BLOOD; DRUG THERAPY: DRUGS	Ballard, P.L. Miller, R. Grannberg, J.P. Sniderman, S. Gluckman, P.D. Kaplan, S.L. Grannberg, M.A. 1980 Journal of Pediatrics 97(3):451-454

Prizidilol (see postings in CHEMIDB).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7354 Blood, Plasma	Ingestion	HPLC	6	a) 0.09-0.21 ug/ml b) 0.33-1.33 ug/ml	a) Not applicable b) Not applicable	a) 1 and 2 hr after 6 ug/kg. Rapid acetylator phenotype (3 subjects) b) 1 and 3 hr after 6 ug/kg. 1.09 ug/ml at 2 hr. Slow acetylator phenotype (3 subjects) c) 1 and 3 hr after 6 ug/kg. 1.09 ug/ml at 2 hr. Slow acetylator phenotype (3 subjects) Range of means 24-66 yr old hypertensive patients Systolic blood pressure decreased after 3.0-6.0 ug/kg, diastolic decreased after 4.5-6.0 ug/kg ADULTS: HYPERTENSION; BLOOD PLASMA; ANTI-HYPERTENSIVE AGENTS; DRUG THERAPY: DRUGS; BLOOD PRESSURE	Larsson, R. Karlberg, R.E. Norlander, B. Larsson, R. 1981 Clinical Pharmacology and Therapeutics 29(5):588-593

Propenamide, R- (1-(2-(8-ethyl-4,5-dihydro-5-oxo-10-tetrazol-1-yl)ethyl)-4-(methoxymethyl)-2-p-iperidyl)-8-phenyl-

CI195-58-9

C22-H29-N3-O3

EW 416-55

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7355 Blood, Plasma	Injection	GC	1	2230-7.6 ug/ml	Not given	0-6 hr after 0.125 mg/kg body wt, IV Estimated from graph BLOOD PLASMA; ANALGESICS; DRUGS; NARCOTICS; MEASUREMENT METHODS; NEURON	Koestenborghs, R. Kichelens, L. Verhaeghe, J. 1981b Journal of Chromatography 224:122-127

Propionamide, N-(1-phenethyl-4-piperidyl)-, citrate (1:1) (0 CI)
 2-propionamide, N-phenyl-N-(1-(2-phenylethyl)-4-piperidyl)-, 2-hydroxy-1,2,3-propanetricarboxylate (1:1) (9 CI)
 C22-426-82-0-C6-NH-07
 MW 528.45, BP 149-151 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7356 Blood, Plasma	Injection	Radioactivity	7	a) 16-2.5 ug/ml b) 13-0.35 ug/ml c) 1-1.3 ug/ml	a) Not given b) Not given c) Not given	a) Total radioactivity b) Radioactive fentanyl c) Radioactive metabolites Initial measurements and 8 hr after 6.8 ug/kg Range of means, estimated from graph Healthy 22-29 yr olds BLOOD PLASMA: DRUGS: ANALGESICS; DRUGS; NARCOTICS	McClain, D.A. 1989 C.C. Clinical Pharmacology and Therapeutics 28 (1): 106-116
7357 Urine	Injection	Radioactivity	5	a) Not given b) Not given	a) 76% of dose b) 8% of dose	a) Total radioactivity b) Radioactive fentanyl Cumulative 72 hr output after 6.8 ug/kg Healthy 22-29 yr olds BLOOD PLASMA: URINE: ANALGESICS; DRUGS; NARCOTICS	McClain, D.A. 1989 C.C. Clinical Pharmacology and Therapeutics 28 (1): 106-116

Pridone, 2-(p-chloro-alpha-(2-(diethylamino)ethylbenzyl)-
 2-ethylamino)propanamine, gamma-(4-chlorophenyl)-N,N-dimethyl- (0 CI)
 132-22-9
 C16-819-C1-82
 MW 278.40, BP 130-135 C (allergies), BP 142 C at 1.0 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7358 Bile		GC	1	Not applicable	1.5 ug/l	Fatal ethanol and chlorpheniramine overdose Autopsy of Caucasian found on roadside, age early 20's, wt 150 lb, CA Pulmonary edema, congestion of liver, spleen, kidneys CALIFORNIA: AUTOPSIES; BILE; BLOOD; SPERM; KIDNEYS; LIVER; LUNGS; DRUG ABUSE; DRUGS; FORENSIC MEDICINE	Reed, D. 1981 Clinical Toxicology 18 (8): 981-983
7359 Blood		GC	1	Not applicable	1.1 ug/l	Fatal ethanol and chlorpheniramine overdose Autopsy of Caucasian found on roadside, age early 20's, wt 150 lb, CA Pulmonary edema, congestion of liver, spleen, kidneys CALIFORNIA: AUTOPSIES; BILE; BLOOD; SPERM; KIDNEYS; LIVER; LUNGS; DRUG ABUSE; DRUGS; FORENSIC MEDICINE	Reed, D. 1981 Clinical Toxicology 18 (8): 981-983

(SEE PAGE)

Pyridine, 2-(p-chloro-alpha-(2-(dimethylamino)ethyl)benzyl)- (0 CI)
 2-Pyridinepropanamine, gamma-(4-chlorophenyl)-N,N-diethyl- (0 CI)
 C12-819-Cl-82
 NP 274.00, NP 130-135 C (Allergiana), NP 142 C at 1.0 mm Hg

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	SEAP	GENERAL INFORMATION	REFERENCE
7360 Blood, serum	Injection	GC/MS	1	48-4.2 ug/ml	Not given	0.25 and 24 hr after 0.10 mg/kg pharmacokinetic data for 6 other children also given stimulated from grapes 14 yr old, wt 57 kg, with chronic rhinitis CHILDREN; BLOOD; SERUM; AUTOMATED DRUGS; DRUGS; ANTISTATIN	Thompson, J.A. Blodgett, P.C. Wright, F.B. 1981 Journal of Pharmaceutical Sciences 70(11):1289-1295
7361 Brain		GC	1	Not applicable	2.5 mg/kg	Fatal ethanol and chlorpheniramine overdose Autopsy of Caucasian found on roadside, age early 20's, wt 150 lb, CA Pulmonary edema, congestion of liver, spleen, kidneys CALIFORNIA; AUTOPSIES; BILE; BLOOD; BRAIN; KIDNEYS; LIVER; LUNGS; DRUG ABUSE; DRUGS; FORENSIC MEDICINE	Reed, B. 1981 Clinical Toxicology 18(8):941-943
7362 Kidney		GC	1	Not applicable	1.4 mg/kg	Fatal ethanol and chlorpheniramine overdose Autopsy of Caucasian found on roadside, age early 20's, wt 150 lb, CA Pulmonary edema, congestion of liver, spleen, kidneys CALIFORNIA; AUTOPSIES; BILE; BLOOD; BRAIN; KIDNEYS; LIVER; LUNGS; DRUG ABUSE; DRUGS; FORENSIC MEDICINE	Reed, B. 1981 Clinical Toxicology 18(8):941-943
7363 Liver		GC	1	Not applicable	6.6 mg/kg	Fatal ethanol and chlorpheniramine overdose Autopsy of Caucasian found on roadside, age early 20's, wt 150 lb, CA Pulmonary edema, congestion of liver, spleen, kidneys CALIFORNIA; AUTOPSIES; BILE; BLOOD; BRAIN; KIDNEYS; LIVER; LUNGS; DRUG ABUSE; DRUGS; FORENSIC MEDICINE	Reed, B. 1981 Clinical Toxicology 18(8):941-943
7364 Lung		GC	1	Not applicable	5.2 mg/kg	Fatal ethanol and chlorpheniramine overdose Autopsy of Caucasian found on roadside, age early 20's, wt 150 lb, CA Pulmonary edema, congestion of liver, spleen, kidneys CALIFORNIA; AUTOPSIES; BILE; BLOOD; BRAIN; KIDNEYS; LIVER; LUNGS; DRUG ABUSE; DRUGS; FORENSIC MEDICINE	Reed, B. 1981 Clinical Toxicology 18(8):941-943

Pyridoxal, 5-((dihydrogen phosphate (8 CI)
4-pyridinecarboxaldehyde, 3-hydroxy-2-methyl-5-((phosphonooxy)ethyl) (9 CI)
54-57-7
C8-H10-N-O6-P
MW 247.15, MP 140-143 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7365 Blood, plasma			a) 8 b) 9 c) 10 d) 9 e) 10 f) 1 g) Not given	a) Not given b) 1.6-9.6 mg/ml c) 1.6-9.6 mg/ml d) 2.3-258.6 mg/ml e) 3.2-210.4 mg/ml f) Not given g) Not given	a) 16.9 mg/ml b) 4.3 mg/ml c) 3.3 mg/ml d) 18.4 mg/ml e) 12.2 mg/ml f) 10.6 mg/ml g) > 60 mg/ml	a) Nonpregnant women, 20-34 yr old b) Normal pregnant women, prior to delivery c) Pre-eclampsic women, prior to delivery d) Normal pregnant women, prior to delivery e) Infants from normal pregnancy, cord blood f) Infants from pre-eclampsic mothers, cord blood g) Normal pregnant women supplemented with pyridoxine, 5 mg/day, 63 days latter half of pregnancy h) Cord, women in f) Obstetrical patients, Texas TEXAS: ADULTS: VIBRIOSIS; HYPERTENSION; NEURAL RETARDATION; NUTRITIONAL DEFICIENCIES; BLOOD PLASMA; VITAMINS; BLOOD PRESSURE; PREGNANCY	Brophy, R.H. Singer, P. 1975 American Journal of Obstetrics and Gynecology 121(8):1075-1079

Quinaldine (8 CI)
Cinchona-9-ol, 6'-methoxy-, (9S) - (9 CI)
56-51-2
C20-H24-N2-O2
MW 324.41, MP 174-175 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7366 Blood, serum	Ingestion	HPLC	1	0.65-0.15 mg/l	Not given	3 and 8 hr after 200 mg as sulfate, 0.3M mg/l at 1 hr Estimated from graph HEART DISEASES: BLOOD SERUM; ANTIARRHYTHMIC AGENTS; DRUG THERAPY; DRUGS; MEASUREMENT METHODS	Coonhass, V.G. Goverhill, P. Hawley, P.R. 1977 Clinical Chemistry 23(11):2030-2033

Quinine (8 CI)
Cinchona-9-ol, 6'-methoxy-, (Ralphs, 98) - (9 CI)
130-95-0
C20-H24-N2-O2
MW 324.46

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7367 Blood		UV	a) 76 b) 112	a) 0.4-9.9 mg/dl b) 0.5-11 mg/dl	a) Not given b) Not given	a) Deaths involving morphine and quinine b) Deaths involving morphine, ethanol, and quinine Wayne County, MI MICHIGAN: AUTOPSIES; DRUG ABUSE; DRUGS; NARCOTICS; PSYCHOTROPIC DRUGS; SERIATIVES	Rosforde, J.R. 1977 Journal of Forensic Sciences 22(8):718-724

Quisqualine, 7-chloro-4-((8-(diethylamino)-1-ethylbutyl)amino) - (8 CI)
 1,8-Pentanediamine, N(8) - (7-chloro-8-quisqualinyl) - N(11)-diethyl - (9 CI)
 58-05-7
 C18-826-C1-83
 MW 319.69, BP 87 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUBSTANCE OF CASE	RANGE	SEAN	GENERAL INFORMATION	REFERENCE
7348 Blood		GC	1	Not applicable	33 ug/ml	Suicide victim, dose unknown 15 yr old Laotian, resident of San Jose, CA Cerebral edema with anoxic cortical reaction, pulmonary congestion and edema, hemorrhagic gastritis CALIFORNIA: AUTOPSY; SUICIDE; BLOOD; KIDNEYS; LIVER; LUNGS; URINE; ANTI-INFLAMMATORY AGENTS; ANTI-EPILEPTIC AGENTS; DRUG ABUSE; DRUGS; FORENSIC MEDICINE	Velegarten, H. L. Cherry, E. J. 1981 Clinical Toxicology 18(8):959-963
7369 Plasma		GC	1	Not applicable	110 ug/g	Suicide victim, dose unknown 15 yr old Laotian, resident of San Jose, CA Cerebral edema with anoxic cortical reaction, pulmonary congestion and edema, hemorrhagic gastritis CALIFORNIA: AUTOPSY; SUICIDE; BLOOD; KIDNEYS; LIVER; LUNGS; URINE; ANTI-INFLAMMATORY AGENTS; ANTI-EPILEPTIC AGENTS; DRUG ABUSE; DRUGS; FORENSIC MEDICINE	Velegarten, H. L. Cherry, E. J. 1981 Clinical Toxicology 18(8):959-963
7370 Liver		GC	1	Not applicable	169 ug/g	Suicide victim, dose unknown 15 yr old Laotian, resident of San Jose, CA Cerebral edema with anoxic cortical reaction, pulmonary congestion and edema, hemorrhagic gastritis CALIFORNIA: AUTOPSY; SUICIDE; BLOOD; KIDNEYS; LIVER; LUNGS; URINE; ANTI-INFLAMMATORY AGENTS; ANTI-EPILEPTIC AGENTS; DRUG ABUSE; DRUGS; FORENSIC MEDICINE	Velegarten, H. L. Cherry, E. J. 1981 Clinical Toxicology 18(8):959-963
7371 Tong		GC	1	Not applicable	73 ug/g	Suicide victim, dose unknown 15 yr old Laotian, resident of San Jose, CA Cerebral edema with anoxic cortical reaction, pulmonary congestion and edema, hemorrhagic gastritis CALIFORNIA: AUTOPSY; SUICIDE; BLOOD; KIDNEYS; LIVER; LUNGS; URINE; ANTI-INFLAMMATORY AGENTS; ANTI-EPILEPTIC AGENTS; DRUG ABUSE; DRUGS; FORENSIC MEDICINE	Velegarten, H. L. Cherry, E. J. 1981 Clinical Toxicology 18(8):959-963

(SEE PAGE)

Quinalone, 7-chloro-4-[(8-(diethylamino)-1-methylbutyl)amino] - (8 CI)
 1,4-Pentamethylenediamine, 8(4)-(7-chloro-4-quinoxalyl)-5(1),8(1)-diethyl- (9 CI)
 58-05-7
 C18-B26-C1-W3
 MW 315.89, BP 87 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	REFERENCE
7372 Urine		GC	1	Not applicable	167 ug/ml	Selegarten, H.L. Cherry, E.J. 1981 Clinical Toxicology 18(8):559-563

Resorcinol (8 CI)
 1,3-Benzenediol (9 CI)
 108-46-3
 C18-B26-C3
 MW 110.11, BP 109-111 C, BP 260 C (also reported as 276.5 C), VP 1 mm Hg at 108.4 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	REFERENCE
7373 Urine	Dermal	HPLC	a) 3 b) 1	a) 3.75-22.98 ug b) 0 ug	a) 12.13 ug b) 0 ug	Young, D. Nacht, S. Gans, E.H. 1981 Journal of Chromatography 228:513-518

Salicylic acid (8 CI)
 Benzoic acid, 2-hydroxy- (9 CI)
 68-72-7
 C7-B6-C3
 MW 138.12, BP 157-159 C, BP about 211 C at 20 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	REFERENCE
7374 Blood, plasma	Ingestion		a) 1 b) 1	a) 35-2.5 ug/ml b) 45-1.3 ug/ml	a) Not applicable b) Not applicable	Fiadly, J.W.A. Delage, H.L. Seach, H.F. Seach, H.F. Fiadly, J.W.A. 1981 Clinical Pharmacology and Therapeutics 29(5):625-633

(NEXT PAGE)

Salicylic acid (8 CI)
Benzoic acid, 2-hydroxy- (9 CI)
69-72-7
C9-H8-O3
MW 136.12, BP 157-159 C, BP about 211 C at 20 mm Hg

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7375 Blood, serum	Peroral	HPLC	1	670-84 mg/l	Not applicable	Day 1 and 3 after 150 g/day for 4 days of treatment. Detoxification began on day 2. 7 yr old with congenital ichthyosis, The Netherlands Hyperventilation, hyperpyrexia and coma. Brain edema, coagulopathy and metabolic acidosis. During the weeks following treatment, patient was lethargic, anorectic, and exhibited extensor spasms. EEG abnormalities and paroxysmal brain stem disorders. CASE HISTORIES: CHILDREN: BLOOD SERUM: ANALGESICS; ANTI-INFLAMMATORY AGENTS; DRUGS; HYPERNATREMIA	Yoon, S.-B., Schmidt, R., Christensen, R.A.J., 1981 Pharmaceutical Weekblad Scientific Edition 3:205-211
7376 Milk	Ingestion		43 M 1	a) 0.27-1.0 ug/ml b) 1.5-0.2 ug/ml	a) Not applicable b) Not applicable	a) 0.5 and 2 hr after 454 mg. Placental measurement 0.8 ug/ml at 12 hr b) 1.5 and 24 hr after 454 mg. Initial measurement 0.9 ug/ml at 0.5 hr Estimated from graph Tissue included 324 mg phenacetin, 64 mg caffeine and 60 mg codeine phosphate 30 and 32 yr old nursing mothers ADULTS: BLOOD PLASMA; MILK: ANALGESICS; DRUGS; MARCOTICS; CAFFEINE; LACTATION	Zindler, J.W., DeAngelis, R.L., Kearney, R.F., Reich, R.H., Fidley, J.H., 1981 Clinical Pharmacology and Therapeutics 29(5):625-633

Salicylic acid acetate (8 CI)
Benzoic acid, 2-(acetyloxy)- (9 CI)
50-78-2
C9-H8-O4
MW 180.2, MP 135 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7377 Blood, serum		HPLC	63	a) 20-300 mg/l b) 0.3-12.1 mg/l c) Not given d) Not given e) 5.2 mg/l f) Not given g) Not given	a) Not given b) 3.8 mg/l c) 5.8 mg/l d) 4.3 mg/l e) 5.2 mg/l f) 9.3 mg/l	a) Salicylic acid, 62 patients b) Salicylic acid, 63 patients c) Salicylic acid, 7 patients in b) d) 30 yr old patient, 5 patients in b) e) 30-39 yr old f) Salicylic acid, 9 patients in b) g) Salicylic acid, 12 patients in b) h) 50-59 yr old i) Salicylic acid, 10 patients in b) j) 60 yr old Metabolites of salicylic acid acetate k) Patients with salicylic acid levels >100 mg/l, estimated from graph Patients on chronic acetylsalicylic acid therapy ADULTS: RENATOIDS ANTHRAXIS; BLOOD SERUM; ANALGESICS; ANTI-INFLAMMATORY AGENTS; DRUGS; HYPERNATREMIA	Montgomery, P.B., Sitar, R.S., 1981 Gerontology 27:329-333

Sulicylic acid, 100 (1-1) (8 CI)
 Salicylic acid, 2-hydroxy-, 100 (1-1) (9 CI) (VAB)
 C7-H5-O3
 MW 136.12, BP 157-159 °C, BP about 211 °C at 20 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7378 Blood, serum	Ingestion		1	59-12 mg/dl	Not given	Initial measurement and 2 days after treatment. Accidental overdose. 52 yr old Mental agitation and confusion, labored respiration, bilateral rales with expiratory wheezes in lower parts of lungs. Deep tendon hyperreflexia, minimal acrocyanosis, tachycardia. Pulmonary edema. CASE HISTORIES: BLOOD SERUM; ANALGESICS; DRUG ABUSE; DRUGS	Liebman, E.H. Katz, R.G. 1981 Journal of the American Medical Association 246(19):2227-2228
7379 Blood, serum	Ingestion		20	a) Not given b) Not given c) Not given	a) 143.1 ug/ml b) 131.9 ug/ml c) 138.9 ug/ml	a) Plain aspirin b) Buffered aspirin c) Enteric-coated aspirin Dose 3.5 g/day for 7 days Healthy 21-45 yr olds Subcutaneous hemorrhages after plain or buffered aspirin BLOOD SERUM; ANALGESICS; DRUG THERAPY; DRUGS	Lanza, P.L. Wolfe, G.L., Jr. Weisman, R.S. 1980 New England Journal of Medicine 303(3):136-138
7380 Milk	Ingestion	HPLC	6	a) 0.42-0.78 mg% b) 1.20-2.11 mg% c) 1.80-4.81 mg%	a) 0.56 mg% b) 1.60 mg% c) 3.87 mg%	a) 2-4 hr after 500 mg b) 2-6 hr after 1000 mg c) 2-4 hr after 1500 mg Administered as 500 mg acetylsalicylic acid tablets 1 hr after breakfast Peak levels Healthy nursing mothers, 24-32 yr old (mean 29 yr), 46-65 kg (mean 58 kg), 2-8 mo post-partum (mean 5 mo) ADULTS: MILK; ANALGESICS; ANTIPYRETICS; DRUGS; LACTATION; RETENOLITES	Jessell, P. Kohavatz, E. 1981 International Journal of Pharmaceutics 8:245-250

Sulfuric acid disodium salt
 7757-82-6
 H2O4-S.2Na
 MW 142.06, BP approximately 400 °C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7381 Urine	Ingestion	Colorimetry	5	a) 13.0-25.0 meq/24 hr b) 17.3-55.2 meq/24 hr c) 38.8-71.5 meq/24 hr d) 27.5-59.8 meq/24 hr e) 50.8-69.3 meq/24 hr	a) Not given b) 36.4 + or - 15.4 meq/24 hr c) 53.4 + or - 15.8 meq/24 hr d) 43.5 + or - 12.0 meq/24 hr e) 61.8 + or - 7.8 meq/24 hr	a) Baseline b) 24 hr output after 18.1 g as decahydrate c) 72 hr cumulative output after 18.1 g as decahydrate d) Same as b), 4 equally divided hourly doses e) Same as c), 4 equally divided hourly doses Healthy volunteers Severe diarrhea after single dose. No diarrhea or only mild cases of short duration after multiple smaller doses. SULFATE; URINE; DRUGS	Cocchitto, D.H. Levy, G. 1981 Journal of Pharmaceutical Sciences 70(3):331-333

tetrahydrocannabinol cross-reacting cannabinoids (no postings in CHEMLIST).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7382 Urine	Ingestion Inhalation	Heterogeneous Enzyme Immunoassay	7	a) 132-918 ug/l b) 561-363 ug/l c) 63-118 ug/l d) Not detectable e) 128-705 ug/l f) 100-800 ug/l	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 2 and 6 hr after 30 mg delta-9 tetrahydrocannabinol (THC). 341 ug/l at 24 hr. Predose level 216 ug/l (1 subject) b) 6 and 48 hr after 30 mg delta-9 THC (1 subject) c) 2 and 48 hr after 100 mg cannabidiol. Predose level 132 ug/l (1 subject) d) 100 mg cannabidiol (1 subject) e) 2 and 12 hr after 100 mg cannabidiol (1 subject) f) Peak levels 1-5 hr after smoking 1 marijuana cigarette (4 subjects) levels expressed as THC-9 acid equivalents. f) estimated from graph URINE: DRUGS; PSYCHOTROPIC DRUGS; MEASUREMENT METHODS	Rodgers, R. Crowl, C.F. Simstad, E.H. Wu, M. Wu, J.K. Roush, R.C. Bosley, G.L. Hillman, E.P. 1978 Clinical Chemistry 24(1):95-100
7383 Urine	Inhalation		a) 1 b) 1	a) Not given b) Not given	a) 60 ng/ml b) >250 ng/ml	a) 20 hr after a standard marijuana cigarette (20 mg delta-9 tetrahydrocannabinol) (THC) b) 5 hr after a standard marijuana cigarette. Specific assay found 21 ng/ml of 11-nor-9 carboxy-delta-9 THC URINE: DRUGS; PSYCHOTROPIC DRUGS; MEASUREMENT METHODS	Groves, S.J. Soares, J.S. 1978 Journal of Analytical Toxicology 2:98-100

Theophylline (8 CI)
1R-Purine-2,6-dione, 3,7-dihydro-1,3-dimethyl- (9 CI)
58-55-9
C7-H8-N4-O2
MW 180.17, MP 270-274 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7384 Blood, plasma	Ingestion	HPLC	a) 9 b) 8	a) 3.5-6 mg/l b) 6-9.8 mg/l	a) 4.8 +/- 0.7 mg/l b) 8.1 +/- 1.1 mg/l	a) Smokers (4 men, 5 women) b) Nonsmokers (4 men, 4 women) Dose 125 mg every 8 hr for 3 days Samples collected over 8 hr period Range of means estimated from graph In cigarette smokers, demethylation increased more than 8-hydroxylation Smokers, mean age 30.3 yr, mean wt 61.4 kg, Nonsmokers, mean age 29.7 yr, mean wt 60.3 kg ADULTS; BLOOD PLASMA; URINE; DRUG THERAPY; DRUGS; MUSCLE RELAXANTS; THEOPHYLLINES; METABOLISM; METABOLITES; SMOKING	Grigoriel, J.-J. Bickert, D.J. 1979 Clinical Pharmacology and Therapeutics 30(4):491-496
7385 Blood, plasma	Injection	HPLC	a) 1 b) 1 c) 1	a) 24-13 ug/ml b) 14-6.5 ug/ml c) 7-3.8 ug/ml	a) Not given b) Not given c) Not given	a) 30 and 360 min after 3.2-5.3 mg/kg. Initial measurement 17 ug/ml at 15 min b) 30 and 360 min after 3.2-5.3 mg/kg. Initial measurement 7.3 ug/ml at 15 min c) 30 and 300 min after 3.2-5.3 mg/kg. Initial measurement 6.8 ug/ml at 20 min Estimated from graph 24-32 yr old asthmatics BLOOD PLASMA; MILK; DRUGS; AUTOMONIC DRUGS; DIURETICS	Stec, G.P. Greenberger, P. Woo, T.I. Kestora, T. Hickman, J. Hickman, A.J., Jr. Patterson, R. 1980 Clinical Pharmacology and Therapeutics 28(3):404-408

(NEXT PAGE)

Theophylline (8 CI)
 18-Purine-2,6-dione, 3,7-dihydro-1,3-dimethyl- (9 CI)
 58-55-9
 C7-H8-N4-O2
 MW 180.17, MP 270-274 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7386 Blood, Plasma	Ingestion	GC	1	a) Not applicable b) Not applicable c) Not applicable	a) 146 ug/l b) 98 ug/l c) 31 ug/l	a) 16 hr after dose b) At start of charcoal hemoperfusion c) After 3 hr hemoperfusion Dose 1,575 g 15 yr old, UK Hypotension, tachycardia, cardiorespiratory arrest (resuscitated), edema, hypokalemia, hypocalcemia, cardiac arhythmias, convulsions UNITED KINGDOM: ADOLESCENTS; ADULTS; CASE HISTORIES; BLOOD PLASMA; DRUG ABUSE; DRUGS; HYPOKALCAEMIA; MUSCLE RELAXANTS; THEOPHYLLINES	Reper, S. Cope, P. Vale, A. Bellwell, M. Widdow, B. 1982 Archives of Toxicology 99:303-310
7387 Milk	Ingestion	HPLC	a) 1 b) 1 c) 1	a) 12-6.5 ug/ml b) 10-6.5 ug/ml c) 5.7-2.7 ug/ml	a) Not given b) Not given c) Not given	a) 30 and 310 min after 3.2-5.3 mg/kg b) 30 and 310 min after 3.2-5.3 mg/kg c) 30 and 300 min after 3.2-5.3 mg/kg 24-32 yr old asthmatics BLOOD PLASMA; MILK; DRUGS; AUTONOMIC DRUGS; DIURETICS	Stec, G.P. Greenberger, P. Rao, T.L. McKee, T. McIntosh, R. Atkinson, A.J., Jr. Patterson, R. 1980 Clinical Pharmacology and Therapeutics 28(3):404-408
7388 Urine	Ingestion	HPLC	a) 9 b) 8	a) Not given b) Not given	a) 99.5 $\pm$ 0.1 b) 103 $\pm$ 0.3	a) Smokers (8 men, 5 women) b) Nonsmokers (5 men, 4 women) Dose 125 mg/8 hr for 3 days c of dose excreted over 8 hr period In cigarette smokers N-acetylation increased more than 8-hydroxylation Smokers, mean age 30.3 yr, mean wt 61.4 kg. Nonsmokers, mean age 28.7 yr, mean wt 60.3 kg ADULTS; BLOOD PLASMA; URINE; DRUG THERAPY; DRUGS; MUSCLE RELAXANTS; THEOPHYLLINES; METABOLISM; METABOLITES; SMOKING	Grygiel, J.J. Stettin, D.J. 1981 Clinical Pharmacology and Therapeutics 30(4):491-496

Theophylline, compd. with ethylenediamine (2:1) (8 CI)
 18-Purine-2,6-dione, 3,7-dihydro-1,3-dimethyl-, compd. with 1,2-ethanediamine (2:1) (9 CI)
 317-38-0
 C7-H8-N8-O2, 1/2C2-H8-N2
 MW 220.24, BP 276-278 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7389 Blood, plasma	Ingestion	HPLC	14	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given	a) 5.6 $\pm$ 0.8 ug/ml b) 5.5 $\pm$ 0.8 ug/ml c) 11.8 $\pm$ 3.5 ug/ml d) 13.1 $\pm$ 5.3 ug/ml e) 12.5 $\pm$ 4.9 ug/ml f) 15.5 $\pm$ 7.2 ug/ml g) 11.5 $\pm$ 4.2 ug/ml h) 14.4 $\pm$ 6.2 ug/ml i) 12.5 $\pm$ 4.7 ug/ml j) 15.5 $\pm$ 6.4 ug/ml	a) Day 1, 2 hr after microcrystalline form b) Day 1, 4.5 hr after sustained-release form c) Day 2, 2 hr after microcrystalline form d) Day 2, 4.5 hr after sustained-release form e) Day 3, 2 hr after microcrystalline form f) Day 3, 4.5 hr after sustained-release form g) Day 4, 2 hr after microcrystalline form h) Day 4, 4.5 hr after sustained-release form i) Day 5, 2 hr after microcrystalline form j) Day 5, 4.5 hr after sustained-release form Microcrystalline form of 187.5 mg every 12 hr, sustained-release dose of 375 mg every 12 hr, over 5 days Healthy 20-35 yr olds, Northern Ireland Sleep difficulties, headache, nausea, tremors, vomiting, diarrhea, anisocoria, agitation, loss of appetite. TENDENCY: ADULTS; BLOOD PLASMA; DRUGS; MUSCLE RELAXANTS; COMPARATIVE EVALUATIONS; THEOPHYLLINES	Russell, C.J., Blood, R.A., Kinney, C., McDewitt, D.G., 1980 European Journal of Clinical Pharmacology 18:351-354

Theophylline, 7-(2,3-dihydroxypropyl)- (8 CI)
 18-Purine-2,6-dione, 7-(2,3-dihydroxypropyl)-3,7-dihydro-1,3-dimethyl- (9 CI)
 479-18-5
 C10-H16-N8-O6
 MW 254.25, BP 158 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7390 Blood, serum	Injection	HPLC	20	6.3-16.8 ug/ml	10.7 $\pm$ 3.1 ug/ml	Initial level (extrapolation to time 0) after 5 ug/kg within 2 hr, peaks in milk at 2-4 hr Milk to serum ratio, 2.08 $\pm$ 0.52 Lactating 20-35 yr olds, Kentucky NEWBORN: ADULTS; BLOOD SERUM; MILK; VASODILATORS; DRUGS; MUSCLE RELAXANTS; THEOPHYLLINES; LACTATION	Jacobson, C.H., Chubb, L.M., Hales, J., Plancher, J., 1981 Journal of Clinical Pharmacology 21:405-410

thioxanthene- δ ta(9, 9a), 9a)-proprylamine, 2-chloro-N,8-diacetyl-, (S)- (8 CI)
 1-Propylamine, 3-(2-chloro-9a-thioxanthene-9-ylidene)-N,8-diacetyl-, (S)- (9 CI)
 113-58-7
 C18-H18-Cl1-S
 MW 315.9, BP 94-95 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7391 Brain		GC UV	1	a) Not applicable b) Not applicable	a) 0.8 μ g/100g b) 0.4 μ g/100g	a) Solvent extraction method b) 180-2 resin bag extraction method Patel overdose case Poland POLAND: BLOOD; BRAIN; LIVER; DRUG ABUSE: DRUGS; MEASUREMENT METHODS	Boquet, M. Gierz, J. Sialka, J. 1978b Forensic Science International 12:73-82
7392 Liver		GC UV	1	a) Not applicable b) Not applicable	a) 0.8 μ g/100g b) 1.0 μ g/100g	a) Solvent extraction method b) 180-2 resin bag extraction method Patel overdose case Poland POLAND: BLOOD; BRAIN; LIVER; DRUG ABUSE: DRUGS; MEASUREMENT METHODS	Boquet, M. Gierz, J. Sialka, J. 1978b Forensic Science International 12:73-82

Tryptophan, 5-hydroxy-, L- (8 CI)
 1-Tryptophan, 5-hydroxy- (9 CI)
 430-03-8
 C11-H12-N2-O3
 MW 220.25, BP 270 C (dec.)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7393 Blood, plasma	Ingestion	HPLC Fluorometry	15	a) 0.15-0.40 μ mol/L b) 1.4-3.4 μ mol/L c) 1.7-3.7 μ mol/L d) 1.6-2.8 μ mol/L e) 3.0-5.0 μ mol/L f) 2.2-9.3 μ mol/L g) 2.9-5.8 μ mol/L	a) Not given b) Not given c) Not given d) 2.4 μ mol/L e) 3.9 μ mol/L f) Not given g) Not given	a) 0.5 and 2 hr after 2 μ g/kg. Vial measurement 0.25 μ mol/L at 8 hr (3 patients) b) 0.5 and 2 hr after 2 μ g/kg. Vial measurement 1.8 μ mol/L at 8 hr. After 40 μ g carbidoopa daily for 14 days (3 patients) c) 0.5 and 2 hr after 2 μ g/kg. Vial measurement 1.7 μ mol/L at 8 hr. With 50 μ g carbidoopa (3 patients) d) Peaks 0.5-5 hr after 50 μ g with 50 μ g carbidoopa (6 normal subjects) e) Peaks 0.5-5 hr after 100 μ g with 50 μ g carbidoopa (6 normal subjects) f) Peaks 1-3 hr after 50 μ g L-dopa and without 100 μ g L-dopa and 25 μ g tetracaine (6 parkinsonian patients) g) Peaks 1-7 hr after 50 μ g with and without 100-250 μ g L-dopa and 10-25 μ g carbidoopa (6 parkinsonian patients) Data also for metabolites (a)-c). Range of means for a)-c). Estimated from graph CENTRAL NERVOUS SYSTEM DISORDERS: PLASMA; DRUG INTERACTION; DRUG THERAPY; DRUGS; AMINO ACIDS; METABOLITES	Agassou, L. Jensen, T.S. Said, J.R. Said, J.R. 1981

Bracil, 5-fluoro- (8 CI) (VAB)
2,4(10,30)-pyrimidinodione, 5-fluoro- (9 CI)
51-21-8
Ce-83-P-82
BN 130.06, BP 202-203 C (decomp)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	SEAR	GENERAL INFORMATION	REFERENCE
7394 Blood, plasma	Ingestion	RFLC	1	a) 30-2.5 $\mu\text{mol/l}$ b) 4.5-2.3 $\mu\text{mol/l}$ c) 2.0-1.0 $\mu\text{mol/l}$ d) 2.0-1.0 $\mu\text{mol/l}$	a) Not given b) Not given c) Not given d) Not given	a) Initial measurement and 8 hr. portal vein and a hr. Periparal artery. Initial measurement 3 $\mu\text{mol/l}$ c) 15 min and 8 hr. Periparal vein d) 30 min and 8 hr. Hepatic vein. Initial measurement 1.8 $\mu\text{mol/l}$ Dose 1040 mg (4 mg in dialysate (4 hr. vein) and 100 mg in five 705 ml. solvent at 14 weeks Estimated from graph Patients with adenocarcinoma of the colon CANCERMAS; BLOOD PLASMA; DRUG THERAPY; DRUGS; CHEMOTHERAPY	Spoer, J.L. Sugraber, P.B. Collins, J.B. Dedrick, R.L. Klecker, R.W., Jr. Myers, C.E. 1981 Cancer Research 47:1916-1922

Bren, (2-bromo-2-ethylbutyl)- (8 CI)
Tetrazide, 8-(ethoxycarbonyl)-2-bromo-2-ethyl- (9 CI)
73-83-0
C7-813-B2-02
BN 237.11, BP 116-119 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	SEAR	GENERAL INFORMATION	REFERENCE
7395 Blood	Ingestion	GC	4	a) 10-2 $\mu\text{mol/ml}$ b) 15-5 $\mu\text{mol/ml}$ c) 2-1 $\mu\text{mol/ml}$	a) Not given b) Not given c) Not given	a) 0.5 and 24 hr after 1 g (0.2 μmol) b) 2 and 24 hr after 1 g. Initial measurement 7 $\mu\text{mol/ml}$ at 0.5 hr. Metabolite 2-methylbutyryl- (ethylbutyrate) Range of mean BLOOD; DRUGS; SEDATIVES; BROMINE ORGANIC COMPOUNDS	Foland, R.W. Radomski, S. Miles, B. 1974 Archives of Toxicology 16:1-42

Valeric acid, 2-propyl- (6 CI)
 Valproic acid, 2-propyl- (9 CI)
 98-46-1
 C8-H16-O2
 MW 146.21, BP 120-121 C at 10 mm Hg, 128-130 C at 20 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7396 Blood, plasma	Ingestion	GC	a) 1 b) 1 c) 1 d) 1 e) 1 f) 1 g) 1 h) 1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) 75-200 ug/ml f) 75-200 ug/ml g) 35.7-112 ug/ml h) 60-200 ug/ml	a) 46.5 ug/ml b) 52.6 ug/ml c) 14.8 ug/ml d) 56.0 ug/ml e) Not given f) Not given g) Not given h) Not given	a) Mother, at delivery, dose 600 mg b) Mother, at delivery, dose 600 mg c) Mother, at delivery, dose 600 mg d) Mother, at delivery, dose 1200 mg e) Infant of a), 1-8 day after parturition, cord blood level 69.0 ug/ml f) Infant of b), 12 hr-4 day after parturition, cord blood level 80.0 ug/ml g) Infant of c), 18 hr-1 1/2 day after parturition, cord blood level 35.7 ug/ml h) Infant of d), 12 hr-2 1/2 day after parturition, cord blood level 80.8 ug/ml Daily dose to mother during pregnancy with last dose 8-12.5 hr before delivery e)-h) estimated from graph Epileptic mothers and their full-term male infants, Tokyo Jaundice in two newborns JAPAN: ADULTS: NEUROMUSCULAR: CENTRAL NERVOUS SYSTEM DISEASES: BLOOD PLASMA: ANTICOAGULANTS: DRUGS: PHARMACOKINETICS: SIGNATURES: PREGNANCY Ishizaki, T. Fotocchi, K. Chiba, K. Ishizaki, T. Miyatake, T. 1981 Pediatric Pharmacology 1:291-303	

(NEXT PAGE)

Valeric acid, 2-propyl- (8 CI)
 pentanoic acid, 2-propyl- (9 CI)
 95-66-1
 C8-116-02
 MW 166.21, BP 120-121 C at 16 mm Hg, 128-130 C at 20 mm Hg

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7397 Blood, serum	Ingestion	GC/MS	6	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given l) Not given m) Not given n) Not given o) Not given p) Not given q) Not given	a) 43.2 ug/ml b) 70.5 ug/ml c) 0.6 ug/ml d) 0.3 ug/ml e) 62.7 ug/ml f) 68.0 ug/ml g) 31.6 ug/ml h) 41.6 ug/ml i) 43.5 ug/ml j) 27.1 ug/ml k) 40.0 ug/ml l) 35.0 ug/ml m) 33.3 ug/ml n) 18.8 ug/ml o) 34.0 ug/ml p) 25.1 ug/ml q) 31.0 ug/ml	a) Maternal level at delivery, 11.7 hr after daily dose of 31 mg/kg. Metabolites about 4 ug/ml. b) Cord blood of 41 at delivery. Metabolites about 10 ug/ml. c) Newborn of 41 at 260 hr after birth. Metabolites 0.7 ug/ml. d) As in a). 12 days postnatal delivery. 25 mg/kg 6.0 hr before delivery. Metabolites about 12 ug/ml. e) Cord blood of 41. Metabolites about 12 ug/ml. f) Maternal level at delivery, 13 hr after 7.7 mg/kg. Metabolites about 3 ug/ml. g) Venous cord blood of g). Metabolites about 4 ug/ml. h) Arterial cord blood of g). Metabolites about 4 ug/ml. i) Maternal level at delivery, 10.7 hr after 26.7 mg/kg plus 7.4 mg/kg primidone. Metabolites about 4 ug/ml. j) Cord blood of 31 at delivery. Metabolites about 6 ug/ml. k) Newborn of 31 at 260 hr. As in j). 12 days postnatal delivery. Maternal level at delivery, 6.0 hr after 15.5 mg/kg plus 4.4 mg/kg primidone. Metabolites about 3 ug/ml. l) Cord blood of 41. Metabolites about 6 ug/ml. m) Maternal blood at delivery 15.5 hr after 25.8 mg/kg plus 5.0 mg/kg phenytoin. Metabolites 3.5 ug/ml. n) Cord blood of 41 at delivery. Metabolites about 5 ug/ml. o) and p) estimated from graph. c) and l) estimated from graph. Epileptic mothers and their newborn. 6 of 8 neonates developed icterus neonatorum. Minor abnormalities were hernias, diastasis of umbilical cord, abdominal and weak abdominal wall. 2 were microcephalic.	See, R. Rating, D. G. G. S. I. M. H. R. 1981. Journal of Pharmacology and Experimental Therapeutics 219(3):768-777

(SEE PAGE)

Valeric acid, 2-propyl- (8 CI)
Pentanoic acid, 2-propyl- (9 CI)

Valeric acid, 2-propyl- (8 CI)
Pentanoic acid, 2-propyl- (9 CI)

99-65-1
C0-N16-02

CE-H16-02
 ON 144.21, BP 120-121 C at 14 mm Hg. 120-130 C at 20 mm Hg.

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	SEAL	GENERAL INFORMATION	REFERENCE
7398 Milk	Ingestion	GC/MS	a) 1 b) 1 c) 1 d) 1 e) 1 f) 1	a) 2.2-5.4 ug/ml b) 0.034-4.7 ug/ml c) 0.45-0.72 ug/ml d) 0.12-1.05 ug/ml e) 1.2-1.5 ug/ml f) 0.10-1.6 ug/ml	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 8-20 days postnatal (pal). Dose 31.0 mg/kg/day. Serum levels 83.3-102.2 ug/ml b) 5-29 days postnatal. Dose 10.1 mg/kg/day. Serum, 8.74-96.3 ug/ml c) 3-25 days postnatal. Dose 9.6 mg/kg/day. Serum, 0.2-32.8 ug/ml d) 1-17 days postnatal. Dose 9.5 mg/kg/day. Serum, 0.26-26.7 ug/ml e) 8-12 days postnatal. Dose 26.7 ug/kg/day, plus 7.4 primidone/kg/day. f) 7-82 days postnatal. Dose 25.8 mg/kg/day plus 5.0 mg phenytoin/kg/day. Serum 15.2-75.8 ug/ml Data also given for setabolite. Epileptics c of 8 neonates developed icterus neonatorum. Minor abnormalities were hernias, diastasis of anus, rectus abdominis and weak abdominal walls. 2 were microcephalic ADULTS: PETUS; NERBOM; CENTRAL NERVOUS SYSTEM DISEASES; BLOOD SERUM; MILK; MICROCEPHALISM; DRUG THERAPY; DRUGS; LACTATION; STRABISMUS; PREGNANCY	Warr, H. Haring, D. Roch, S. Rausch, J. Kaiser, H. 1981 Journal of Pharmacology and Experimental Therapeutics 219(3):768-777

Valeric acid, 2-propyl-, sodium salt (8 CI)
Sesquiterpene lactone, 2-propyl-, sodium salt (9 CI)

1069-66-5

CO-M16-02. WA

167.23

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7399 Blood, plasma	Ingestion	GC	20	27-110 ug/ml	57.0 $\pm$ 29.6 ug/ml	Mean dose 25.0 mg/kg/day, plus phenobarbital 0.25-16.2 yr old epileptics	Sugawara, T. Ishizaki, T. Chiba, K. Hori, M. 1981 Journal of Pediatrics 99 (2):318-319
						AGE: CHILDREN; BLOOD PLASMA; ANTICONVULSANTS; DRUG INTERACTION; DRUG THERAPY; DRUGS	

valonitrile, 5-(1,4-dimethoxyphenetyl) methylamino-2-(3,4-dimethoxyphenyl)-2-isopropyl- (I Cf)
 mesomeracetamide, alpha-(3-(2-(3,4-dimethoxyphenylethyl)methylamino)propyl)-3,4-dimethoxy-alpha-(3-acetyloctyl)- (9 Cf)

62-53-9

227-030-

050.9

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DIAGNOSIS	MEAN	CEREBRAL INFORMATION	REFERENCE
7400 Blood	Ingestion	GC	1	Not applicable	8.0 ug/ml	Postmortem sample, suicidal overdose 40 yr old AUTOPSY: SUBJECT: BLOOD: KIDNEYS: LIVER: AUTOMOTIC DRUGS: DRUG ABUSE: VASODILATORS: FORENSIC MEDICINE: MEASUREMENT METHODS: RPN IZLAND	Thomas, B.A. 1984a, b, c. Journal of Analytical Toxicology 5:105-109

(DATE) _____ (PAGE) _____

Valerimide, 5-((3,4-diacetoxymethyl) methylamino)-2-[2,4-diacetoxymethyl)-2-isopropyl]- (9 Cl)

52-53-4
C27-E38-22-08

NU 854-59, BP 243-246 C at 0.01 mm Hg

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7401 Blood, plasma	Injection	HPLC	12	a) 100-500 ng/ml b) 1.5-20 ng/ml c) 1.5-9 ng/ml	a) Not given b) Not given c) Not given	Initial measurements b) at 300 min c) Final measurements at 300-900 min 15 ng dose Estimated from graph Patients with chronic atrial fibrillation CARDIOVASCULAR DISEASES; BLOOD PLASMA; ANTIARRHYTHMIC AGENTS; DRUG THERAPY; DRUGS; METABOLITES	Kates, R.E., Keefe, S.L.D., Schmitt, J., Kober, D., Niebrock, E., 1981 Clinical Pharmacology and Therapeutics 30(1):44-51
7402 Blood, plasma	Injection	HPLC	12	a) 2-50 ng/ml b) 70-100 ng/ml c) 2-30 ng/ml d) 1.5-50 ng/ml e) 70-150 ng/ml f) 10-60 ng/ml	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	Initial measurements, <1 hr b) 12 hr values, 1-3 hr c) Forverapamil. Initial measurements at <1 hr d) Forverapamil. Peak values at 1-4 hr e) Forverapamil. 12 hr f) 120 ng dose Estimated from graph Patients with chronic atrial fibrillation CARDIOVASCULAR DISEASES; BLOOD PLASMA; ANTIARRHYTHMIC AGENTS; DRUG THERAPY; DRUGS; METABOLITES	Kates, R.E., Keefe, S.L.D., Schmitt, J., Kober, D., Niebrock, E., 1981 Clinical Pharmacology and Therapeutics 30(1):44-51
7403 Blood, plasma	Injection		8	a) 80-40 ng/ml b) 7-9 ng/ml c) 600-80 ng/ml d) 30-15 ng/ml	a) Not given b) Not given c) Not given d) Not given	5 and 30 min after 10 ng IV in left brachial vein. Samples from ascending aorta b) 5 and 30 min after 10 ng IV in left brachial vein. Samples from hepatic vein c) 5 and 30 min after 10 ng IV in brachial artery. Samples from ascending aorta after 10 ng IV in hepatic vein d) 5 and 30 min after 10 ng IV in hepatic vein. Samples from hepatic vein Patients with organic heart disease. CARDIOVASCULAR DISEASES; BLOOD PLASMA; ANTIARRHYTHMIC AGENTS; DRUG THERAPY; METABOLITES	Woodcock, R.Z., Schmitt, J., Kober, D., Niebrock, E., 1981 Clinical Pharmacology and Therapeutics 30(1):52-56
7404 Blood, plasma	Injection	GC	a) 5 b) 1 c) 1 d) 5 e) 5 f) 5	a) 50-3 ng/ml b) 40-8 ng/ml c) 30-7 ng/ml d) 40-1 ng/ml e) 40-1 ng/ml f) 15-1 ng/ml	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	Liver patients, at 1 and 12 hr b) Intensive care patient, at 1 and 8 hr c) Intensive care patient, at 1 and 8 hr d) Intensive care patients, at 1 and 8 hr e) Healthy subjects, upper limits at 1 and 7 hr f) Healthy subjects, lower limits at 1 and 6 hr After 5 ng Range of means (a, d-f) Estimated from graph 33-57 yr old liver disease patients, 14-73 yr old intensive care patients, 29-64 yr old controls LIVER DISEASES; BLOOD PLASMA; ANTIARRHYTHMIC AGENTS; DRUGS	Woodcock, R.Z., Niebrock, E., Schmitt, J., 1981 Clinical Pharmacology and Therapeutics 29(1):27-34

(NEXT PAGE)

Valeroltrile, 5-((3,4-dimethoxyphenyl)methylamino)-2-(3,4-dimethoxyphenyl)-2-isopropyl- (8 CI)
 Benzocetonitrile, alpha-(3-((3,4-dimethoxyphenyl)ethyl)methylamino)propyl)-3,4-dimethoxy-alpha- (1-methylethyl)- (9 CI)
 C27-238-82-04
 MW 434.59, BP 243-246 C at 0.01 mm Hg

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7405 Kidney	Ingestion	GC HPLC	1	17-35 ug/g	Not applicable	Range for different extraction and measurement methods. Chloroform extraction gave value of 1.5 ug/g. Postmortem samples, suicidal overdose. 40 yr old AUTOPSY: SWEDEN; BLOOD; KIDNEYS; LIVER; AUTOMOTIC DRUGS; DRUG ABUSE; VASODILATORS; FORENSIC MEDICINE; MEASUREMENT METHODS: NEW ZEALAND	Thomas, B.A. Passell, L.R. 1981 Journal of Analytical Toxicology 5:105-109
7406 Liver	Ingestion	GC HPLC	1	152-200 ug	Not applicable	Range for different extraction and measurement methods. Chloroform extraction gave value of 2.8 ug. Postmortem sample, suicidal overdose. 40 yr old AUTOPSY: SWEDEN; BLOOD; KIDNEYS; LIVER; AUTOMOTIC DRUGS; DRUG ABUSE; VASODILATORS; FORENSIC MEDICINE; MEASUREMENT METHODS: NEW ZEALAND	Thomas, B.A. Passell, L.R. 1981 Journal of Analytical Toxicology 5:105-109

Valine, 3-secraptor, D- (8 CI)
 D-Valine, 3-secraptor- (N CI)
 C5-471-5
 C5-811-N-02-5
 MW 149.21, BP 198.5 C (D-fora)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7407 Blood	Ingestion	HPLC	1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable	a) 6.5 ug/ml b) 3.9 ug/ml c) 2.7 ug/ml d) 2.0 ug/ml e) 1.9 ug/ml	a) Plasma, 120 min after 750 mg, solution, fasting subject (50 ug/ml by nasogastric tube, some lost during administration) b) Plasma, 140 min after 750 mg, capsules, fasting subject c) Plasma, 180 min after 750 mg, capsules, preceded by large breakfast d) Whole blood, 120 min after 750 mg, capsules, fasting subject e) Packed cell concentrations, 140 min after 750 mg, capsules, fasting subject Usual double peaks with first lower, seen in fasting studies only Estimated from graph 30 yr old, wt 81.6 kg ACUTE: RHEUMATOID ARTHRITIS; BLOOD; BLOOD SPERM; URINE; DRUGS; PENICILLINASE	Reynolds, R.F. Ray, D.B. Harkness, T.N. Wagner, J.G. 1981 Clinical Pharmacology and Therapeutics 30(3):284-13

(NEXT PAGE)

Valine, 3-mercapto-, D- (8 CI)
D-Valine, 3-mercapto- (9 CI)
52-47-5
CE-811-B-02-S
BB 149-21, BP 198-5 C (D-Fera)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7408 Blood, plasma	Injection	HPLC	2	a) 6.75-8 ug/ml b) 8.50-6.50 ug/ml c) 3.50-5.00 ug/ml d) 1.75-2.00 ug/ml	a) Not given b) Not given c) Not given d) Not given	a) 240 and 180 min after 1,000 mg b) 240 and 150 min after 750 mg c) 240 and 120 min after 500 mg d) 240 and 120 min after 250 mg Range of peaks Usual double peaks with first usually lower titration of 125 ug, second at 250 ug Oral, after overnight fast Estimated from graph Normal adults ADULTS: RHEUMATOID ARTHRITIS; BLOOD; BLOOD SERUM; URINE; DRUGS; PENCILLAMINE	Bergstrom, R.F., Ray, D.R., Raridon, T.R., Regnier, J.G., 1981 Clinical Pharmacology and Therapeutics 30(3):404-413
7409 Urine	Ingestion	HPLC	5	a) 245-88.7 ug b) 176-74.7 ug c) 83.7-30.2 ug d) 32.7-7.5 ug e) 36.3-10.6 ug f) Not applicable	a) Not given b) Not given c) Not given d) Not given e) Not given f) 125 mg	a) Dose 1000 mg, capsules, 4 fasting subjects b) Dose 750 mg, capsules, 4 fasting subjects c) Dose 500 mg, capsules, 5 fasting subjects d) Dose 250 mg, capsules, 5 fasting subjects e) Dose 750 mg, capsules, after large breakfast, 2 subjects f) Dose <750 mg, solution nasogastric tube, 1 fasting subject Normal adults ADULTS: RHEUMATOID ARTHRITIS; BLOOD; BLOOD SERUM; URINE; DRUGS; PENCILLAMINE	Bergstrom, R.F., Ray, D.R., Raridon, T.R., Regnier, J.G., 1981 Clinical Pharmacology and Therapeutics 30(3):404-413

7410
7410-66-6

BB 65-38, BP 419-5 C, BP 908 C, VP 1 mg/kg at 487 C, 10 mg/kg at 590 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7410 Blood, cells	Ingestion	AMS	10 a) 10 b) 20 c) 20	a) 8.5-9.1 ug/100 ml b) 7.5-8.5 ug/100 ml c) 6.7-8.3 ug/100 ml	a) 9.0 ug/100 ml b) 8.2 ug/100 ml c) 7.6 ug/100 ml	a) Controls, non-nutrient supplement plus lactose-containing placebo b) Lactose-containing placebo supplement plus mineral capsule, 6 days/week c) Supplement and mineral capsule as in b) plus 40 mg in as carbonate, 6 days/week Range of means over 20 months No supplements during 4 mo summer season Significantly increased ht, wt, and bone mass in boys receiving 2x during final 12 mo of supplementation, despite subnormal levels in plasma throughout study 13 yr old, prepubertal, village schoolboys, southern Iran ELEM: ADOLESCENTS; NUTRITIONAL DEFICIENCIES; BLOOD PLASMA; BLOOD SERUM; FERTILITY; CALCIUM; IRON; ISOSPORIN; URINE; DIETS	Benaghy, R.A., Reichold, J.G., Shahmoradian, R., Slavov, V.G., Reichold, J.A., 1974 American Journal of Clinical Nutrition 27(2):112-121

(NEXT PAGE)

Zinc
7480-66-6

In

At 85.38, HP 419.5 C, SP 900 C, VP 1 m Hg at 487 C, 10 mm Hg at 580 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	MEAN	GENERAL INFORMATION	REFERENCE
7411 Blood, plasma	Ingestion	AAS		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 65.3 ug/100 ml b) 55.4 ug/100 ml c) 64.3 ug/100 ml d) 58.5 ug/100 ml e) 59.0 ug/100 ml f) 48.8 ug/100 ml	a) Pretreatment, 25 cases b) Group a) 20 mg Zn/day c) Group b) 20 mg Zn/day d) Group c) after 8 mg Zn/day e) Group d) after 8 mg Zn/day f) Group e) after 8 mg Zn/day Low Zn levels thought to be due to diet high in fiber and phytates 6-12 yr olds, Iran Zn and Fe supplementation did not stimulate growth or bone development, but Fe alone did. IPAH: CHILDREN; BLOOD PLASMA; IRON; ZINC; DIETS; RURAL AREAS	Mahdoui, A., Reinhold, J.G., Reinhold, J.G., Poussy, R., Poussy, R., Reinhold, J.G., 1975 American Journal of Clinical Nutrition 28(7):721-725
7412 Blood, plasma	Ingestion		a) 11 b) 11 c) 6 d) 6	a) 4.3-11.5 umol/l b) 9.5-17.2 umol/l c) 9.9-13.9 umol/l d) 14.3-18.2 umol/l	a) 7.5 $\pm$ 0.6 umol/l b) 13.9 $\pm$ 0.8 umol/l c) 12.1 $\pm$ 0.6 umol/l d) 16.0 $\pm$ 0.6 umol/l	a) Before Zn supplement b) After Zn supplement c) Before Zn supplement d) After Zn supplement Malnourished children on soya-based diet (a) and receiving mean of 100 $\pm$ 0.6 mg Zn/kg/day (b) or on corn's milk-based diet (c) and receiving mean of 71 $\pm$ 0.6 mg Zn/kg/day (d). Jamalou 6-17 yr olds, suffering from kwashiorkor, marasmus, beriberi or both.	Goldman, R.E., Goldman, R.E., 1975 American Journal of Clinical Nutrition 34:900-908
7413 Blood, plasma	Ingestion	AAS	a) 10 b) 20 c) 20	a) 58-77 ug/100 ml b) 57-75 ug/100 ml c) 54-73 ug/100 ml	a) 68.6 ug/100 ml b) 66.6 ug/100 ml c) 66 ug/100 ml	a) Controls, non-nutrient supplement plus lactose-containing placebo b) High protein-vitamin liquid supplement plus mineral capsule, 6 days/week c) Supplement and mineral capsule as in b) plus 40 mg Zn as carbonate, 6 days/week Range of mean over 20 months No supplement during a summer vacation Significantly increased ht, wt, and bone mass in boys receiving Zn during first 12 mo of supplementation, but not in those receiving Zn throughout study 13 yr old, stepherd, village schoolboys, southern Iran IPAH: ADOL'SCENTS; NUTRITIONAL DEFICIENCIES; BLOOD PLASMA; IRON; ZINC; DIETS; RURAL AREAS	Ronaghy, R.A., Reinhold, J.G., Mahdoui, A., Ghavan, P., Spivey Fox, R.A., Reinhold, J.G., 1975 American Journal of Clinical Nutrition 27(2):112-121

(NEXT PAGE)

210c
7440-66-6

Zn
At 65.38, MP 819.5 C, BP 208 C, VP 1 mm Hg at 487 C, 10 mm Hg at 590 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	SEAL	GENERAL INFORMATION	REFERENCE
7414 Blood, plasma	Ingestion	AMS	a) 6 b) 5 c) 4 d) 5 e) 5 f) 5 g) 5 h) 5 i) 5 j) 5	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable h) Not applicable i) Not applicable j) Not applicable	a) 142 ug/dl b) 43.5 ug/dl c) 4 ug/dl d) 49 ug/dl e) 2.5 ug/dl f) 2.5 ug/dl g) 4 ug/dl h) 4 ug/dl i) 4 ug/dl j) 4 ug/dl	a) 120 g oysters (100 mg Zn) b) Same as a), plus 120 g black bean c) Same as a), plus 120 g corn d) Same as a), plus 120 g soybeans e) Same as a), plus 120 g rice f) Same as a), plus 120 g wheat g) Same as a), plus 120 g barley h) Same as a), plus 120 g oats i) Same as a), plus 120 g rye j) Same as a), plus 120 g sorghum Mean peak changes from fasting pretest levels (not reported) at 1-4 hr after intake. Healthy adults ADULTS: BLOOD PLASMA: COMPARATIVE EVALUATIONS: METALS: ZINC; DIETS: FOODS	Solomon, R.A. Jacob, R.A. Pineda, O. Viteri, F. 1978 Journal of Laboratory and Clinical Medicine 94(2):335-343
7415 Blood, plasma	Ingestion	AMS	1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 3.2 uM/l b) 12.5 uM/l c) 21.4 uM/l d) 12.2 uM/l	a) During therapy of 1600 mg/day di-iodohydroxyquinoline (Diodoquin). Oral contraceptive taken concurrently b) 1500 mg/day Diodoquin, oral contraceptive discontinued c) Peak 6 days after start of 150 mg/day ZnSO ₄ supplement, plus 1500 mg/day Diodoquin d) Oral contraceptive taken concurrently with 150 mg/day ZnSO ₄ supplement. Diodoquin discontinued 25 yr old with acromegaly anticoagulant ADULTS: NUTRITIONAL DEFICIENCIES: NUTRITIONAL DISORDERS: BLOOD SERUM: URINE: DRUG INTERACTION: DRUG THERAPY: ORAL CONTRACEPTIVES: ZINC: METALS	Jackman, M.J. 1977 Journal of Clinical Pathology 30:284-287
7416 Blood, serum	Ingestion	AMS	47	Not given	99.3 $\pm$ 23.9 ug/dl	Mean daily intake, 9.2 $\pm$ 2.5 mg, no supplements Seventh-day Adventist Canadian women, mean age 52.9 $\pm$ 15.3 yr, vegetarians 19 $\pm$ 17 yr. ADULTS: BLOOD SERUM: HAIR: NEPHROLOGIES: HEP: ZINC; DIETS	Aderson, R.H. Gibson, R.S. Sahy, J.N. 1981 American Journal of Clinical Nutrition 38:1042-1048
7417 Blood, serum	Ingestion	AMS	a) 23 b) 22	a) 8.5-12.3 uM/l b) 11.5-16 uM/l	a) Not given b) Not given	a) Postoperative day 2 and 5, preoperative level 14.4 uM/l b) Postoperative day 1 and day 5, preoperative level 14.7 uM/l, 20 mg Zn and 1.2 mg Cu IV daily Range of means, estimated from graph. Surgery patients ADULTS: BLOOD SERUM: COPPER: METALS: ZINC	Hallbook, T. Medalla, R. 1978 Acta chirurgica Scandinavica 184:423-426

(SEE PAGE)

Zinc
7410-66-6SD
AT 65.36, BP 419.5 C, BP 908 C, VP 1 mm Hg at 467 C, 10 mm Hg at 590 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	SEAN	GENERAL INFORMATION	REFERENCE
7418 Blood, marrow	Ingestion	AMS	13	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given	a) 105 μ g- 7 μ g/100 b) 212 μ g- 17 μ g/100 c) 336 μ g- 8 μ g/100 d) 227 μ g- 8 μ g/100 e) 87 μ g- 3 μ g/100 f) 135 μ g- 8 μ g/100 g) 131 μ g- 7 μ g/100 h) 98 μ g- μ g/100 al i) 219 μ g- 16 μ g/100 j) 184 μ g- 13 μ g/100	a) Fasting, no supplement b) Fasting, 50 mg supplement c) Fasting, 50 mg supplement d) 50 mg supplement with black coffee only e) 50 mg supplement with meal plus milk and cheese f) 50 mg supplement with meal plus water and dry meat g) 50 mg supplement plus meal h) 50 mg with meal as in a) i) 50 mg with meal as in f) j) 50 mg with meal as in g) Supplement as sulfate Basic meal of coffee, bread, butter and jam. Stewed bread (high phytic acid) in e)-j). White bread in h)-j) Additional data presented for purified inhibitors. 19-47 yr olds (mean 28 yr) Gastric discomfort 1/2-1 hr after 50 mg in some subjects NUTRITIONAL DEFICIENCIES: BLOOD SERUM: ZINC; DIETS: FOODS	Recond, A. Donzel, P. Yoshida, J.L. Clinical Pharmacology and Therapeutics 17(4):469-474
7419 Hair	Ingestion	MS	52	Not given	187 μ g- 44 μ g/y	Mean daily intake, 9.2 μ g- 2.5 μ g, no supplements Seventh-Day Adventist Canadian Women, mean age 52.9 $\pm$ or- 15.3 yr, vegetarians 19 $\pm$ or- 17 yr. ADULTS: BLOOD SERUM: HAIR: HEMOGLOBINS: IRON: ZINC; DIETS	Anderson, B.M. Gibson, R.S. Saber, J.M. 1981 American Journal of Clinical Nutrition 38:1042-1048
7420 Urine	Ingestion	AMS	1	Not applicable	2.9 μ g/24 hr	Woman taking oral contraceptives and 1800 μ g/day di-iodohydroquinoline for 2 yr 25 yr old with acrodermatitis enteropathica ACUTE: NUTRITIONAL DEFICIENCIES: NUTRITION: DISORDERS: BLOOD SERUM: URINE: DRUG: INTERACTION: DRUG THERAPY: ORAL CONTRACEPTIVES: ZINC; METALS	Jackson, M.J. 1977 Journal of Clinical Pathology 30:284-287

1-Penten-4-yl-3-ol, 1-chloro-3-ethyl-
113-18-8
CP-89-Cl-O
RE 142.61, BP 173-174 C, also reported as 181 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DIAGNOSIS	REMARKS	GENERAL INFORMATION	REFERENCE
7421 Blood		GC TLC UV GC/MS Mass spectrometry	1	0-41.5 mg/l	Not given	Dose probably sufficient to contribute to symptoms. Remnants from 3 laboratory identical samples for toxic screen. Overdose drugs identified in 504-704 of cases. Laboratories agreed on 6 of 23 drugs reported present in serum of 20 patients. Levels were variable and appeared asymptomatic. Probable drug overdose patients, Boston, MA. MASSACUSETTS: BLOOD; ANALGESICS; ANTICONVULSANTS; ANTIHYPERTENSIVE AGENTS; ANTIPYRETICS; DRUG ABUSE; DRUGS; HYPNOTICS; NARCOTICS; SEDATIVES; TRANQUILIZERS; COMPARATIVE EVALUATIONS; ALCOHOLS; MEASUREMENT METHODS.	Thelander, J.A. Sakson, G. Shelton, J. Castello, C.E. Goldman, P. 1981 Clinical Pharmacology and Therapeutics 29(5):570-575
7422 Blood		GC	3	0.30-1.86 mg/100 ml	Not given	Drug induced fatalities. Ethanol (2 cases, 0.09-0.17 g/100 ml) and secobarbital (1 case, 0.80 mg/100 ml) also found. Autopsies, 1975-76, Los Angeles County, CA. CALIFORNIA: AUTOPSIES; CASE HISTORIES; BLOOD; DRUG ABUSE; DRUGS; FORENSIC MEDICINE; ALCOHOLS.	Hakura, G.R. Moguchi, T.T. Griesemer, E.C. 1979 Journal of Analytical Toxicology 3:137-142
7423 Blood	Inhalation	HPLC GC/MS	1	Not applicable	0.63 mg/dl	Drug overdose fatality. 0.045 mg/dl cocaine and 0.10 mg/dl ethanol also present. 45 yr old, Los Angeles County, CA. CALIFORNIA: AUTOPSIES; BILE; BLOOD; URINE; DRUG ABUSE; DRUGS; NARCOTICS; FORENSIC MEDICINE; INHALATION.	Hakura, G.R. Moguchi, T.T. 1981 Clinical Toxicology 18(8):895-905

1-Piperazineethanol, 4-(3-(2-(trifluoromethyl)-9H-thioxanthene-9-ylidene)propyl)-, (2)-
53772-82-0
C23-825-73-82-0-S
MW 434.54

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DIAGNOSIS	REMARKS	GENERAL INFORMATION	REFERENCE
7424 Amniotic fluid		HPLC	2	0.4-0.5 mg/ml	0.45 mg/dl	Dose, 40 mg/2 wt (decanoate). Serum levels 1.7 and 2.1 mg/ml. FETUS: AMNIOTIC FLUID; BLOOD SERUM; PLACENTA; DRUG ABUSE; DRUGS; TRANQUILIZERS; LACTATION; PREGNANCY.	Kirk, L. Jorgensen, L. 1980 Psychopharmacology 72:167-168

(NEXT PAGE)

1-piperazineethanol, 4-(3-(2-(trifluoroethyl)-9H-thioxanthen-9-ylidene)propyl)-, (2)-
 5772-92-0
 C23-H25-F3-N2-O-S
 MW 434.54

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7425 Blood, serum		BIA	5	a) 1.3-4.3 ng/ml b) 0.3-0.9 ng/ml c) 1.3-1.5 ng/ml	a) 2.7 ng/ml b) 0.6 ng/ml c) 1.4 ng/ml	a) Maternal serum, at delivery b) Umbilical cord serum c) Maternal serum, postpartum, 4-41 days Dose 2 mg/day or 30-60 mg/2 or 3 wk (decanate) 24-29 yr olds DRUGS: PSYCHOTROPIC DRUGS; TRANQUILIZERS; NERVOUS; BLOOD SERUM; AMNIOIC FLUID; MILK; DRUG THERAPY; LACTATION; PREGNANCY	Kirk, I. Jorgensen, A. 1980 Psychopharmacology 72:107-108
7426 Milk		BIA	3	0.8-1.8 ng/ml	1.6 ng/ml	4-41 days postpartum. Serum levels 1.3-1.5 ng/ml. Dose, 2 mg/day or 40 mg/2 wk or 60 mg/3 wk NEMOIN: AMNIOIC FLUID; BLOOD SERUM; MILK; DRUG THERAPY; DRUGS; TRANQUILIZERS; LACTATION; PREGNANCY	Kirk, I. Jorgensen, A. 1980 Psychopharmacology 72:107-108

1-piperazineethanol, 4-(3-(2-(trifluoroethyl)phenothiazin-10-yl)propyl)-, (8 CI)
 69-23-8
 C22-H26-F3-N2-O-S
 MW 437.52, BP 268-274 C at 0.5 mm Hg, 250-252 C at 0.3 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7427 Blood, Plasma		Radioreceptor assay	a) 1 b) 1 c) 1 d) 1	a) < 1.0 ng/ml b) 2.0-6.5 ng/ml c) 2.6-14.6 ng/ml d) 9.8-12.5 ng/ml	a) Not given b) Not given c) Not given d) Not given	a) 5 mg/day b) 15 mg/day c) 15 mg/day d) 30 mg/day Range of weekly mean. Treated 3 wk. Absence of coffee and tea during wk 2 did not increase bioavailability. Mentally retarded patients with psychotic disturbances. NEW ZEALAND: ADULTS; BEHAVIOR DISORDERS; MENTAL RETARDATION; BLOOD PLASMA; PSYCHOTROPIC DRUGS; COMPARATIVE EVALUATIONS; DIETS; DRUGS; Caffeine	Brown, S. Taylor, K.P. Gibb, I.A. McL. 1981 Lancet i(8231):1217-1218

TISSUE	EXPOSURE DO. TP	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7828 Blood, plasma	Ingestion	RIA Radioactivity	a) 10 b) 10 c) 6	a) 1.302-3.053 ng/ml b) 1.104-3.276 ng/ml c) 142-42 ng-equiv./ml	a) Not given b) Not given c) Not given	a) 1 and 48 hr after 60 mg. Initial measurement 1.255 ng/ml at 0.5 hr. APC 11.064 ng hr/ml b) 1 and 48 hr after 180 mg. Initial measurement 3.148 ng/ml at 0.5 hr. APC 14.10 ng hr/ml after 60 mg (40 uCi) of C-14 labelled urfexidol. Initial measurement 96 ng-equiv./ml at 0.5 hr. APC 229.71 ng-equiv./ml	Oberholzer, P.-W. Weiser, D.L. Hoch, R.F. Walker, B.J. Lendon, G.A. Bienenbach, S. A. Dawson, R. Dawson, T.D. Wright, G.J. Myers, M. Schneider, V. Cook, C.E.
						ADULTS: BLOOD PLASMA: DRUGS: ANTI-ISTAMINE: MEASUREMENT METHODS	1981 Biopharmaceutics & Drug Disposition 2: 183-190

1,2-Propanediol, 3-(2-nitroethyl)- (8 CI)
1,2-Propanediol, 3-(2-nitro-1H-imidazol-1-yl)- (9 CI)

12551-92-3
C6-W9-W3-04
99 107, 18

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	REMARK	GENERAL INFORMATION	REFERENCE
7a29 Blood, plasma	Ingestion	HPLC	a) 16 b) 1	a) 15-2 ug/ml b) 28-3a ug/ml	a) Not given b) Not applicable	a) 1 and 26 hr after 1 g/kg a b) 37 min and 3 hr after dose of 1 g/kg a. Normalized doses. Final measurement 30 ug/ml at 8.2 hr. Estimated from graph. Patients with carcinoma or melanoma ADULTS: CARCINOMAS; MELANOMAS; BLOOD PLASMA: CEREBROSPINAL FLUID; MAMMARY GLANDS: DRUG THERAPY; DRUGS; COMPARATIVE EVALUATIONS; CHEMOTHERAPY	Dische, S. Saunders, W.I. Piley, P.J. Huck, J. Bennett, S.B. Stratford, S.B.I. Hinchlinton, A.I. 1981 British Journal of Cancer 43:344-349
7a30 Cerebrosp inal fluid		HPLC	8	0-12 ug/ml	Not given	1 and 3 hr after normalized dose of 1 g/kg a. Final measurement 7 ug/ml at 13 hr Estimated from graph. Patients with malignancies. ADULTS: CARCINOMAS; MELANOMAS; BLOOD PLASMA: CEREBROSPINAL FLUID; MAMMARY GLANDS: DRUG THERAPY; DRUGS; COMPARATIVE EVALUATIONS; CHEMOTHERAPY	Dische, S. Saunders, W.I. Piley, P.J. Huck, J. Bennett, S.B. Stratford, S.B.I. Hinchlinton, A.I. 1981 British Journal of Cancer 43:344-349
7a31 Mammary gland	Ingestion	HPLC	1	28-33 ug/g	Not applicable	1 and 2 hr after normalized dose of 1 g/kg a. Final measurement 27 ug/g at 8.5 hr Estimated from graph. Biopsies of tumor Patient with breast carcinoma ADULTS: CARCINOMAS; MELANOMAS; BLOOD PLASMA: CEREBROSPINAL FLUID; MAMMARY GLANDS: DRUG THERAPY; DRUGS; COMPARATIVE EVALUATIONS; CHEMOTHERAPY	Dische, S. Saunders, W.I. Piley, P.J. Huck, J. Bennett, S.B. Stratford, S.B.I. Hinchlinton, A.I. 1981 British Journal of Cancer 43:344-349

9,8-dihydroxy-5,8-bis[(2-(2-hydroxyethyl)amino)ethyl] amino-9,10-anthracenedione dihydrochloride (No postings in CURRENTS).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7832 Blood, Plasma	Injection	NELC	4	800-460 ug/ml	430 *or- 223 ug/ml	Max levels after 30 min IV of 12 ug/kg Cancer patients CAUSAL: SARCOMAS; BLOOD PLASMA; DRUG THERAPY; DRUGS	Reynolds, D.L. Blitch, E.E. Petton, T.P. Repta, A.J. Stern, L.A. Wynn, R.C. Taylor, S.A. International Journal of Pharmacology 9:67-71

Alphamethyl-Tropone-2beta-Carboxylic acid, beta-hydroxy-, methyl ester, benzoinate (ester) (P CI)
 alpha-cyano-2,2,4,4-tetrahydro-2H-pyran-3-one, 3-(benzoyloxy)-2-methyl-, methyl ester, (1R,2R,4R,5R)- (P CI)
 C17-R21-R-04
 MW 303.35, MP 98 C, BP 167-180 C at 0.1 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7833 Bile	Injection Ingestion Inhalation	RIA GC/MS	20	Trace-0.74 ug/ml	Not given	Drug overdose fatalities 18-40 yr olds, Los Angeles County, CA CAUSAL: ANESTHETICS; BILE; BLOOD; DRUGS; DRUG ABUSE; DRUGS; NARCOTICS; POSSIBLE MEDICINE; INHALATION	Mahanna, G.A. Koguchi, T.T. Clinical Toxicology 18(8):895-905
7834 Blood	Ingestion		1	a) Not applicable b) Not applicable	a) 2.4 ug/ml b) 5.2 ug/ml	a) 8 hr after exposure b) About 24 hr after exposure After ingestion of 6 capsules containing 10 mg of which ruptured during endoscopy. 31 yr old Disorientation, euphoria, loss of consciousness. Systolic pressure 80 mm Hg, pulse rate 140/min. Apnea, dilated pupils, massive clonic seizures BLOOD; DRUG ABUSE; DRUGS; NARCOTICS	Stares, C.A. Arango, A. Lester, J.L. 1977 Journal of the American Medical Association 238(13):1391-1392
7835 Blood	Injection Inhalation Rectal	GC	a) 3 b) 6	a) Not detected-0.42 ug/100 ml b) < 0.01-2.8 ug/100 ml	a) Not given b) Not given	a) Cocaine overdose implicated as direct cause of death b) Other drugs present Overdose or suicide victims, CA and TX STICUP; BLOOD; BILE; BILE; KIDNEY; LIVER; LUNG; LUNG; DRUG ABUSE; DRUGS; NARCOTICS; CALIFORNIA; TEXAS	Landberg, G.D. Gartlett, J.C. Reynolds, P.C. Cravey, R.H. Shaw, S.P. 1977 Journal of Forensic Sciences 22(2):402-408
7836 Blood	Injection Inhalation	RIA GC/MS	16	0.38-0.63 ug/ml	Not given	Deaths attributed to cocaine overdose. In 6 other drug fatalities cocaine levels were not more than 0.13 ug/ml and other drugs, including morphine, codeine, methamphetamine, also found. 18-40 yr olds, Los Angeles County, CA CAUSAL: ANESTHETICS; BILE; BLOOD; DRUGS; DRUG ABUSE; DRUGS; NARCOTICS; POSSIBLE MEDICINE; INHALATION	Mahanna, G.A. Koguchi, T.T. 1981 Clinical Toxicology 18(9):895-905

(SEE PAGE)

teliphen, Salphen-Tropene-2beta-carboxylic acid, beta-hydroxy, methyl ester, benzoate (ester) (6 CI)
 8-azabicyclo(3.2.1)octane-2-carboxylic acid, 3-(benzoyloxy)-8-methyl-, methyl ester, (1R-(2R,6R))- (9 CI)
 C₁₇H₂₁N₃O₈
 MW: 387.4
 PR 101.15, BP 98 C, RP 187-188 C at 0.1 mm Hg

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7837 Brain	Injection Inhalation	GC	a) 1 b) 2	a) Not applicable b) 0.03-1.5 ug/100 g	a) 0.04 ug/100 g b) Not given	a) Cocaine overdose implicated as direct cause of death b) Other drugs present Overdose or suicide victims, CA SUICIDE; BLOOD; BRAIN; HRT; KIDNEYS; LIVER; LUNGS; URINE; DRUG ABUSE; DRUGS; NARCOTICS; CALIFORNIA; TEXAS	Ludberg, G.D. Garratt, J.C. Reynolds, P.C. Cravey, R.N. Shaw, R.F. Journal of Forensic Sciences 22(2):402-408 1977
7838 Kidney	Injection	GC	a) 2 b) 1	a) 1.48-2.70 ug/100 g b) Not applicable	a) Not given b) 0.02 ug/100 g	a) Cocaine overdose implicated as direct cause of death b) Other drugs present Overdose or suicide victims, CA SUICIDE; BLOOD; BRAIN; HRT; KIDNEYS; LIVER; LUNGS; URINE; DRUG ABUSE; DRUGS; NARCOTICS; CALIFORNIA; TEXAS	Ludberg, G.D. Garratt, J.C. Reynolds, P.C. Cravey, R.N. Shaw, R.F. Journal of Forensic Sciences 22(2):402-408 1977
7839 Liver	Injection Inhalation	GC	a) 3 b) 6	a) 0.01-0.15 ug/100 g b) Not detected-2.0 ug/100 g	Not given	a) Cocaine overdose implicated as direct cause of death b) Other drugs present Overdose or suicide victims, CA SUICIDE; BLOOD; BRAIN; HRT; KIDNEYS; LIVER; LUNGS; URINE; DRUG ABUSE; DRUGS; NARCOTICS; CALIFORNIA; TEXAS	Ludberg, G.D. Garratt, J.C. Reynolds, P.C. Cravey, R.N. Shaw, R.F. Journal of Forensic Sciences 22(2):402-408 1977
7840 Lung	Injection Inhalation	GC	a) 1 b) 3	a) Not applicable b) 0.09-0.6 ug/100 g	a) 0.01 ug/100 g b) Not given	a) Cocaine overdose implicated as direct cause of death b) Other drugs present Overdose or suicide victims, CA SUICIDE; BLOOD; BRAIN; HRT; KIDNEYS; LIVER; LUNGS; URINE; DRUG ABUSE; DRUGS; NARCOTICS; CALIFORNIA; TEXAS	Ludberg, G.D. Garratt, J.C. Reynolds, P.C. Cravey, R.N. Shaw, R.F. Journal of Forensic Sciences 22(2):402-408 1977
7841 Urine	Injection Inhalation Rectal	GC	a) 4	0.15-21.5 ug/100 ul	Not given	Drug overdose, or suicide victims, CA and TX. Other drugs also present SUICIDE; BLOOD; BRAIN; HRT; KIDNEYS; LIVER; LUNGS; URINE; DRUG ABUSE; DRUGS; NARCOTICS; CALIFORNIA; TEXAS	Ludberg, G.D. Garratt, J.C. Reynolds, P.C. Cravey, R.N. Shaw, R.F. Journal of Forensic Sciences 22(2):402-408 1977
7842 Urine	Intranasal	GC RIA RIA Enzyme Immunoassay	6	a) 0.10-0.20 ug b) 10.50-35.17 ug c) 13.62-41.07 ug	a) Not given b) Not given c) Not given	a) Cocaine, 74 hr b) Metabolite (benzoylecgonine), 24 hr c) Total, 168 hr Dose 46.56-109.73 mg (average 98.26 absorbed) Healthy 23-34 yr olds URINE; DRUGS; NARCOTICS; MEASUREMENT METHODS	Mailton, R.P. Salicrú, J.R. Shink, R.L. Lead, P. Harris, S.C. Christensen, J.G. 1977 Journal of Forensic Sciences 22(4):1697-707
7843 Urine	Injection	RIA GC/MS	1	Not applicable	0.18 ug/dl	Dose unknown, autopsy data 37 yr old resident of Los Angeles County, CA CALIFORNIA; AUTOPSY; BILE; BLOOD; URINE; DRUG ABUSE; DRUGS; NARCOTICS; FORENSIC MEDICINE; INSULATION	Sehara, G.P. Koguchi, T.Y. 1981 Clinical Toxicology 18(6):845-846

(NEXT PAGE)

Isophen, Salphen-Tropase-2beta-carboxylic acid, 1beta-hydroxy-, methyl ester, benzoate (ester) (9 CI)
 9-methylcyclo (3,2,1) octane-2-carboxylic acid, 3-(benzoyloxy)-8-methyl-, methyl ester, (1R-(exo,exo)), (9 CI)
 C17-82, R-08
 98 331.35, 98 90 C, 98 197-188 C at 0.1 mm Hg

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
Urine Blood Nerve	Injection	GC	1	Not applicable	0.18 mg/100 ml	Overdose victim, TX SUBSTANCE: BLOOD; BRAIN; URINE; NERVE; LIVER; LUNG; URINE; DRUG ABUSE; DRUGS: NARCOTICS; CALIFORNIA; TEXAS	Lundberg, G.B. Gariott, J.C. Payne, R.C. Stacy, R.H. 1975, R.P. Journal of Forensic Sciences 22 (2):402-408

1R-Isidano (4,5-b)pyridine, 2-(2-methoxy-4-(methylsulfonyl)phenyl)-
 73385-40-8
 C18-813-W3-02-S
 98 287.36

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7885 Blood, plasma	Injection Ingestion	HPLC		a) 2400-110 ng/ml b) 3575-110 ng/ml c) 475-110 ng/ml d) 840-110 ng/ml	a) Not given b) Not given c) Not given d) Not given e) Not given	a) Initial measurement and 8 hr after 0.7 mg/kg IV b) 10 min and 10 hr after 150 mg oral. Initial measurement, 1100 ng/ml at 15 min c) 15 min and 8 hr after 100 mg, oral d) 15 min and 8 hr after 75 mg, oral e) 15 min and 8 hr after 50 mg, oral Healthy 30-55 yr olds. BLOOD PLASMA: ANTIARRHYTHMIC AGENTS; DRUGS	Both, W. Prox, A. Sawyer, A. 1983 Arzneimittel-Forschung/ Drug Research 31 (1), 1a:236-239
7886 Urine	Ingestion			Not given	516	Relative activity of 2.0 mg/kg dose eliminated in 24 hr URINE: ANTIARRHYTHMIC AGENTS; DRUGS; METABOLITES	Both W. Prox, A. Sawyer, A. Schald, J. 1983, R. Arzneimittel-Forschung/ Drug Research 31 (1), 1a:232-239

16-pyrrolid(1,2-a)(1,2,8)benzotriazine-1,3(2H)-dione, 5-(diethylamino)-9-ethyl-2-propyl-
1339-55-8
C16-H20-N4-O2
MW 300.37

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	DEATH	GENERAL INFORMATION	REFERENCE
Testes Urine	Injection	TLC	27	a) 51-73% of dose b) 17-75% of dose c) 2-11% of dose d) 1-11% of dose	a) 62% of dose b) 41% of dose c) 21% of dose d) 5% of dose	a) Controls b) Moderate impairment of liver function c) Moderate impairment of liver function d) Kidney disease Dose 600 mg	Beeley, A.-D. Glicks, H.-O. Harris, R.-E. Harris, R.-E. Mackay, R.-E. 1961 European Journal of Clinical Pharmacology 20:147-155
						ADULTS: KIDNEY DISEASES; LIVER DISEASES; URINE; ANTI-NEPLASTIC AGENTS; DRUG THERAPY; DRUGS	

116-Pyrdo (2,1-b) quinoxaline-8-carboxylic acid, 2-acetoxy-11-oxo-
63094-36-0
C18-H10-F2-O6
MW 270.26

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	REMARKS	GENERAL INFORMATION	REFERENCE
7450 Blood, plasma	Ingestion	BIA	a) 1 b) 1 c) 1	a) 200-2 ug/ml b) 100-3 ug/ml c) 6000-7 ug/ml	a) Not applicable b) Not applicable c) Not applicable	a) About 2 and 36 hr after 2 ug. Initial measurement 220 ug/ml b) About 3 and 36 hr after 10 ug. Initial measurement about 190 ug/ml c) About 0.5 and 60 hr after 50 ug. Patient died from graft Healthy adults BLOOD PLASMA: AUTOMATED DRUGS; DRUGS; ANTISTAMINE; MEASUREMENT METHODS	Sims, R. Liska, R. Liska, T. Colburn, W. Parsenot, R. 1980 Research Communications in Chemical Pathology and Pharmacology 30(1):163-170

2-Metanol, 4-(diethylamino)-3-methyl-1,2-diphenyl-, propionate (ester), (2S,3R) - (8 CI)
Benzoin, 4-(diethylamino)-3-methyl-1,2-diphenyl-, propionate (ester), (S-(R*,S*)) - (9 CI)
89-62-5
C22-H29-N-O2
MW 339.48, MW 75-76 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	REMARKS	GENERAL INFORMATION	REFERENCE
7451 Blood		GC TLC HPLC GC/MS Enzymatic	2	0-0.2 ug/l	Not given	Doses probably less than toxic amount Results from a laboratory receiving identical samples for toxicology Overdose drugs identified in 108-79 of cases Laboratories agreed on 4 of 23 drugs reported present in serum of 20 patients Levels were variable and appeared apocryphal. Probable drug overdose patients. Boston, MA MASSACHUSETTS; BLOOD; ANALGESICS; ANTICONGESTANTS; ANTIDEPRESSIVE AGENTS; ANTIPTHERICS; DRUG ABUSE; DRUGS; HYPNOTICS; NARCOTICS; Sedatives; TRANQUILLIZERS; COMPARATIVE STUDIES; ALCOHOLS; MEASUREMENT METHODS	Ingelfinger, J.A. Jackson, G. Shine, B. Goldman, C.G. Goldman, P. 1981 Clinical Pharmacology and Therapeutics 29(5):570-575
7452 Blood		GC TLC HPLC	1859	0-20 ug/ml	Not given	86.6% were multiple drug toxicities. In most cases levels exceeded therapeutic ranges Autopsy reports, United States and Canada, 1976-79 Coma, seizures, syncope, vomiting ADULTS; AUTOPSIES; BLOOD; ANALGESICS; DRUG ABUSE; DRUGS; POPPERIC ACIDINE	Pieble, R.S. Caplan, T.S. Garriott, J.C. Monforte, J.B. Shaw, P.F. Somerville, P.E. 1981 Journal of Forensic Sciences 26(4):738-757
7453 Blood			10	0.02-0.50 ug/100 ml	Not given	Drug induced fatalities. Ethanol (7 cases, 0.01-0.14 g/100 ml). Morphine (3 cases, 0.4-0.7 g/100 ml). Morphine and morphine (2 cases, 0.3-0.7 g/100 ml). diphenhydramine (1 case, 0.2 g/100 ml). methaqualone (1 case, 0.10 g/100 ml). also found. Autopsies, 1975-76, Los Angeles County, CA CALIFORNIA; AUTOPSIES; CASE DISTORTION; BLOOD; DRUG ABUSE; POPPERIC ACIDINE; ALCOHOLS	Wakamura, G.B. Miyachi, T.T. Glenister, E.C. 1979 Journal of Analytical Toxicology 3:137-142

(NEXT PAGE)

2-phenol, 8-(diethylamino)-3-methyl-1,2-diphenyl-, propionate (ester), (2S,3R) - (8 CI)
 Benzenethanol, alpha-(2-(diethylamino)-1-methyl-1-phenyl)-, propionate (ester), (S-(R*,S*)) - (9 CI)
 469-62-5
 C22-H29-N-O2
 MW 339.48, MP 75-76 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DIAGNOSIS	DOSE	GENERAL INFORMATION	REFERENCE
7854 Blood	Ingestion	TLC GC	1	a) Not applicable b) Not applicable	a) 0.10 mg/kg b) 1.79 mg/kg	a) Propoxyphene b) Propoxyphene 100 mg baron-8 4x/day as drug substitute 205a g stillborn infant of 21 yr old heroin-dependent mother on detoxification program for 1 yr Death from intracerebral anoxia and acute intoxication. Mother had ingested or injected morphine derivative and/or propoxyphene. FETUS: IMPLANTS; BLOOD; BRAIN; KIDNEYS; LIVER; LUNGS; ANALGESICS; DRUG ABUSE; DRUGS; NARCOTICS; METABOLISM; METABOLITES	Cravey, R.H. 1981 Clinical Toxicology 18(8):911-914
7845 Blood		GC	2	Not applicable	0.07 mg	Driver fatally injured in single-car crash. Blood alcohol 220 mg% North Carolina MORTUARY: BLOOD; DRUG ABUSE; DRUGS; ALCOHOLS	Turk, R.P. Schay, A.D. 1978 Journal of Forensic Sciences 19(1):198-207
7856 Liver	Ingestion	TLC GC	1	a) Not applicable b) Not applicable	a) 5.6 mg/kg b) 16.0 mg/kg	a) Propoxyphene b) Propoxyphene 100 mg baron-8 4x/day as drug substitute 205a g stillborn infant of 21 yr old heroin-dependent mother on detoxification program for 1 yr Death from intracerebral anoxia and acute intoxication. Mother had ingested or injected morphine derivative and/or propoxyphene. FETUS: IMPLANTS; BLOOD; BRAIN; KIDNEYS; LIVER; LUNGS; ANALGESICS; DRUG ABUSE; DRUGS; NARCOTICS; METABOLISM; METABOLITES	Cravey, R.H. 1981 Clinical Toxicology 18(8):911-914

2-Isidrosoline, 2-(2,6-dichlorosulfonyl)- (8 CI)
 Benzoxazine, 2,6-dichloro-N-2-imidazolidinylidene- (9 CI)
 C205-96-2
 C205-96-3
 MW 230.11, MP 305 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUBSTANCE OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7657 Blood, plasma	Ingestion	GC	a) 2 b) 3 c) 5 d) 4	a) 1.9-2.3 ng/ml b) 1.2-2.2 ng/ml c) 0.6-1.1 ng/ml d) 0.4-0.7 ng/ml	a) Not given b) Not given c) Not given d) Not given	a) 400 ug 2x/day. 2 and 12 hr after morning dose. 1.1 ng/ml at 0 hr b) 400 ug 2x/day. 0 and 2 hr after morning dose. 1.6 ng/ml at 12 hr c) 200 ug 2x/day. 0 and 2 hr after morning dose. 0.7 ng/ml at 12 hr d) 100 ug 2x/day. 0 and 2 hr after morning dose. 0.5 ng/ml at 12 hr Correlation with systolic blood pressure Range of means 52-61 yr old hypertension patients BLOOD PLASMA: ANTIHYPERTENSIVE AGENTS; DRUGS; BLOOD PRESSURE	Hogata, H.J. Chen, J.S. Chen, L.-C. 1981 Clinical Pharmacology and Therapeutics 30(6):729-734

2-Propenol, 1-(1-mecroplasma)-3-(1-naphthyl)- (8 CI)
 2-Propenol, 1-(1-ethoxyethyl)amino)-3-(1-naphthyl)- (9 CI)
 C16-66-6
 C16-821-8-02
 MW 259.34, MP 96 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUBSTANCE OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7658 Blood, plasma	Ingestion	Fluorometry	a) 8 b) 8	a) 91-12 ng/ml b) 57-11 ng/ml	a) Not given b) Not given	a) At 1 and 10 hr after 40 mg dose b) At 1 and 10 hr after 40 mg dose with a blood alcohol level of 0.8-1.5 g/100 ml (mean 0.8 ± 0.2 g/100 ml) Range of means Healthy students, mean age 22.9 yr, mean wt 63.9 kg. ADULTS: BLOOD PLASMA: ANTIARRHYTHMIC AGENTS; DRUG INTERACTION; DRUGS; ALCOHOLS	Sotaniemi, E.A. Anttila, M. Pantio, A. Stangard, J. Sankko, P. Järvelin, P. 1981 Clinical Pharmacology and Therapeutics 29(6):705-710
7659 Blood, plasma	Ingestion	GC	22	a) 5-205 ng/ml b) 35-251 ng/ml c) Not given d) Not given e) Not given f) Not given	a) 38.6 ± 0.6 ng/ml b) 78.5 ± 0.6 ng/ml c) 33.6 ± 0.6 ng/ml d) 33.6 ± 0.6 ng/ml e) 50.1 ± 0.6 ng/ml f) 87.4 ± 0.6 ng/ml	a) 22 hyperthyroid patients, continuous treatment for 9.4 ± 0.5 days b) 18 euthyroid patients from a) following surgery (12), carbimazole (3), or radioiodine therapy (3). Continuous treatment for 5.6 ± 0.6 days c) Smokers in a), mean age 45 ± 5 yr, 11 patients d) Non-smokers in a), mean age 46 ± 5 yr, 11 patients e) Smokers in b), 8 patients f) Non-smokers in b), 11 patients 9 hr after 160 mg/day Positive correlation of plasma levels with dose in both hyperthyroid and euthyroid patients. Levels higher in smokers. 16-75 yr olds, mean wt 53.9 ± 0.9 kg (hyperthyroid) and 56.1 ± 0.8 kg (euthyroid) HYPERTHYROIDISM: AGENTS; BLOOD PLASMA: ANTIARRHYTHMIC AGENTS; DRUG THERAPY; DRUGS; SMOKING	Peely, J. Crooks, J. Sternson, L.R. 1991 British Journal of Clinical Pharmacology 12:73-78

(NEXT PAGE)

2-Propanol, 1-((1-methylpiperidin-4-yl)-naphthyl)- (9 CI)
 2-Propanol, 1-((1-methylpiperidin-4-yl)-naphthyl)- (9 CI)
 525-66-6

C16-H21-N-O2
 MW 259.36, MP 96 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7460 Blood, serum	Ingestion	Fluorometry	7	a) 0-156 ng/ml b) 0-362 ng/ml c) 24-602 ng/ml d) 81-287 ng/ml e) 206-562 ng/ml	a) 36 ng/ml b) 80 ng/ml c) 100 ng/ml d) 149 ng/ml e) 373 ng/ml	a) 10 mg b) 20 mg c) 40 mg d) 80 mg e) 160 mg Dose: 4 daily No correlation between tachycardia correlated with level No reliable way to document beta blockade when exercise could not be performed Healthy 22-28 yr olds ADVERSE: HEART DISEASES; BLOOD SERUM; ANTIHYPERTENSIVE AGENTS; DRUG THERAPY; DRUGS	Hager, W.D. Pimlaszek, R.J., Jr. Perrier, D. Mayermohr, R. Goldberger, V. Clinical Pharmacology and Therapeutics 30(3):283-290
7461 Blood, whole	Ingestion	Fluorometry	6	a) 172.5-15 ng/ml b) 85-10 ng/ml	a) Not given b) Not given	a) 1-5 and 12 hr after 80 mg dose. Initial measurement 30 ng/ml at 30 min. Area under the curve (AUC) 727 mg·hr. 25.6 ng/ml after 80 mg dose. b) 1-5 and 12 hr after 80 mg dose. Initial measurement 12 ng/ml at 30 min. AUC 450 ng·hr. 167.9 ng/ml after Cimetidine 400 mg (1g/day) Estimated from graph 22-70 yr old patients with peptic ulcers BLOOD; DRUG INTERACTIONS; DRUGS	Heagerty, A.H. Donovan, M.A. Castleden, C.H. Pohl, J.F. Reid, L. Reid, A. British Medical Journal 202:1917-1919

2-Propanol, 1-((1-methylpiperidin-4-yl)-naphthyl)-1,2,5-triazole-3-yl)-, (S)-(-)- (9 CI)
 2639-75-8
 152-84-0-5

C16-H21-N-O2
 MW 259.36, MP 71.5-72.5 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7462 Blood, plasma	Ingestion	GC-EC	16	a) 16.5-92.25 ng/ml b) 11.5-23.0 ng/ml c) 43.7-23.0 ng/ml d) 10.2-160.75 ng/ml e) 11.5-198.0 ng/ml	a) 36.0 ± 9.3 b) 53.7 ± 13.39 c) 111.2 ± 11.7 d) 69.3 ± 19.95 e) 93.2 ± 19.56 SEM	a) 5 mg, 3 x/d, 8 controls b) 10 mg, 3 x/d, 8 controls c) 15 mg, 3 x/d, 8 controls d) 15 mg, 3 x/d, 6 coronary artery patients e) 25 mg and 20 mg doses, 2 x/d, 6 coronary artery patients Peak levels, about 1.5 hr after dose. Data also for trough levels Considerable beta-blocking effects. Synthetic time intervals of coronary patients affected. Equivalent doses prolonged the pre-ejection period, isovolumetric contraction time, and ratio of pre-ejection period over left ventricular ejection time. CARDIOVASCULAR DISEASES; HEART DISEASES; BLOOD PLASMA; ANTIHYPERTENSIVE AGENTS; DRUG THERAPY; DRUGS	Singh, B.N. Singh, P.N. Whitlock, R.A.L. Collett, J. Chen, C. Clinical Pharmacology and Therapeutics 28(2):159-166

2-Propenol, 1-(4-(2-methoxyethyl) phenoxy)-3-((1-methylethyl) amino)-, (±)-
 3750-58-6
 C15-H25-N-O3
 MW 267.36

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7463 Blood, plasma	Ingestion	CC	a) 5 b) 5 c) 5 d) 5	a) 50-9 ng/ml b) 90-1 ng/ml c) 200-6 ng/ml d) 500-7 ng/ml	a) Not given b) Not given c) Not given d) Not given	a) 2 and 33 hr after 50 mg. Initial measurement 40 ng/ml at 1 hr b) 2 and 33 hr after 100 mg. Initial measurement 80 ng/ml at 1 hr c) 2 and 24 hr after 200 mg. Initial measurement 180 ng/ml at 1 hr d) 1 and 33 hr after 400 mg. Range of means, estimated from graph Healthy 18-33 yr olds Duration of cardiac beta blocking activity determined by elimination half life and dose. ADULTS: BLOOD PLASMA; DRUGS; COOPERATIVE EVALUATIONS	Hatton, D.W.G. Palmer, K. Winey, C.D. Wilson, R. Russell, C.J. Shaw, R.C. Clinical Pharmacology and Therapeutics 29(3):295-302

2-Propen-1-amine, 3-(4-bromophenyl)-N,N-dimethyl-3-(3-pyridinyl)-, (2)-
 46199-8-3
 C16-H17-N3-Br
 MW 317.25

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7464 Blood, plasma	Ingestion	CC	8	a) 29.2-102.6 ng/ml b) 155.4-554 ng/ml	a) 71.3 $\pm$ 29.0 ng/ml b) 251.1 $\pm$ 142.9 ng/ml	a) Tizimidine b) Tizimidine (active metabolite) Steady state levels after 225 $\pm$ 78.5 ng/day for at least one week 8-9 $\pm$ 1.8% of a) and 18.3 $\pm$ 2.8% of b) as free drug Patients with unipolar or bipolar depressive disorders, 17-67 yr olds, 40 ADULTS: BEHAVIOR DISORDERS; BLOOD PLASMA; CYPHOSPHAL FLUID; ANTIDEPRESSIVE AGENTS; DRUG THERAPY; DRUGS; METABOLITES	Call, R.W. Costall, R.G. Coady, R.W. Pocock, R.E. 1982 Clinical Pharmacology and Therapeutics 31(4):522-527
7465 Cerebrospinal fluid	Ingestion	CC	8	a) 2.7-6.9 ng/ml b) 26.7-72.0 ng/ml	a) 5.7 $\pm$ 1.8 ng/ml b) 42.9 $\pm$ 16.1 ng/ml	a) Tizimidine b) Tizimidine (active metabolite) Steady state levels after 225 $\pm$ 78.5 ng/day for at least one week Patients with unipolar or bipolar depressive disorders, 17-67 yr olds, 40 ADULTS: BEHAVIOR DISORDERS; BLOOD PLASMA; CYPHOSPHAL FLUID; ANTIDEPRESSIVE AGENTS; DRUG THERAPY; DRUGS; METABOLITES	Call, R.W. Costall, R.G. Coady, R.W. Pocock, R.E. 1982 Clinical Pharmacology and Therapeutics 31(4):522-527

2,6-Diacetylacetonum, 3,3-dimethyl-5-methyl-
1,2,4-triazole
C9-815-85-0
MW 181.20, MP 24-27 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	REAR	GENERAL INFORMATION	REFERENCE
Uterus Blood			3	0.87-3.57 ug/100 ml	Not given	Drug induced fatalities. Ethanol (2 cases, 0.84-0.20 g/100 ml) and acetaldehyde (1 case, 0.80 g/100 ml) also found. Autopsies, 1975-76, Los Angeles County, CA CALIFORNIA: AUTOPSIES: CASE HISTORIES: BLOOD: DRUG ABUSE; DRUGS; FORENSIC MEDICINE; ALCOHOLS	Sakuma, G.E. Hoschi, T.T. Griemmer, E.C. 1979 Journal of Analytical Toxicology 3:137-142

2,6-Pyridinedione, 6-(1-piperidinyl)-, 3-oxide
38308-81-5
C9-815-85-0
MW 209.29

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	REAR	GENERAL INFORMATION	REFERENCE
Uterus Blood Mezma			1	150-0.5 ug/ml	Not applicable	3 hr and 13 hr after ingestion of possibly as much as 100 mg 2 yr old boy Reflex tachycardia was observed pulse rate dropped from 160/min to 120/min CHILDREN: BLOOD SERUM; ANTIHYPERTENSIVE AGENTS	Isles, C. Hoschi, T.T. Griemmer, E.C. Mitchell, I. 1981 Lancet 1(8211):97

2,6,6-(H,3M,5M)-Pyridinedione, 5-ethyl-5-(3-methylbutyl)-, monosodium salt, airt. with 5-(1-methylbutyl)-5-(2-propenyl)-2,4,6-(H,3M,5M)-pyridinedione monosodium salt
C9-815-85-0
C11-818-82-03.28a
MW 510.61

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	REAR	GENERAL INFORMATION	REFERENCE
Uterus Blood		UV	4	0.3-0.8 ug/100 ml	Not given	Drug induced fatalities. Ethanol (3 cases, 0.02-0.19 g/100 ml), phenobarbital (1 case, 0.5 ug/100 ml), and phenytoin (1 case, 0.16 ug/100 ml) also found. Autopsies, 1975-76, Los Angeles County, CA CALIFORNIA: AUTOPSIES: CASE HISTORIES: BLOOD: DRUG ABUSE; DRUGS; FORENSIC MEDICINE; ALCOHOLS	Sakuma, G.E. Hoschi, T.T. Griemmer, E.C. 1979 Journal of Analytical Toxicology 3:137-142

7-550E	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7469 Bile	Ingestion	HPLC	1	a) Not applicable b) Not applicable c) Not applicable	a) 313 $\pm$ 2 ug/ml b) 13 $\pm$ 3 ug/ml	a) Parent compound b) Metabolite (3-Forayirfascylin SV) 8-10 hr after about 15 g overdose 28 yr old suicide victim, wt 70 kg Severe, acute pulmonary edema. Congestion and swelling of brain and kidneys. Liver abnormalities ADULTS: SUICIDE; BILE; BLOOD; LIVER; OPIMS: ANTIBIOTICS; DRUG ABUSE; DRUGS: ALCOHOLS; METABOLITES	Plopp, T.A., Battista, R.J., Unterdoerfer, H., van Ditsmaach, W.C., Mees, R.A.A., 1981 Archives of Toxicology 48:245-252
7470 Blood	Ingestion	HPLC	1	Not applicable	55 $\pm$ 2 ug/ml	8-10 hr after about 15 g overdose 28 yr old suicide victim, wt 70 kg Severe, acute pulmonary edema. Congestion and swelling of brain and kidneys. Liver abnormalities ADULTS: SUICIDE; BILE; BLOOD; LIVER; URINE: ANTIBIOTICS; DRUG ABUSE; DRUGS: ALCOHOLS; METABOLITES	Plopp, T.A., Battista, R.J., Unterdoerfer, H., van Ditsmaach, W.C., Mees, R.A.A., 1981 Archives of Toxicology 48:245-252
7471 Liver	Ingestion	HPLC	1	a) Not applicable b) Not applicable c) Not applicable	a) 373 $\pm$ 75 ug/g b) 225 $\pm$ 60 ug/g c) 268 $\pm$ 18 ug/g	a) Parent compound b) Metabolite (3-Forayirfascylin SV) c) Metabolite (25-Desacetylirfascylin) 8-10 hr after about 15 g overdose 28 yr old suicide victim, wt 70 kg Severe, acute pulmonary edema. Congestion and swelling of brain and kidneys. Liver abnormalities ADULTS: SUICIDE; BILE; BLOOD; LIVER; URINE: ANTIBIOTICS; DRUG ABUSE; DRUGS: ALCOHOLS; METABOLITES	Plopp, T.A., Battista, R.J., Unterdoerfer, H., van Ditsmaach, W.C., Mees, R.A.A., 1981 Archives of Toxicology 48:245-252
7472 Urine	Ingestion	HPLC	1	a) Not applicable b) Not applicable c) Not applicable	a) 475 $\pm$ 22 ug/ml b) 31 $\pm$ 4 ug/ml c) 796 $\pm$ 29 ug/ml	a) Parent compound b) Metabolite (3-Forayirfascylin SV) c) Metabolite (25-Desacetylirfascylin) 8-10 hr after about 15 g overdose 28 yr old suicide victim, wt 70 kg Severe, acute pulmonary edema. Congestion and swelling of brain and kidneys. Liver abnormalities ADULTS: SUICIDE; BILE; BLOOD; LIVER; URINE: ANTIBIOTICS; DRUG ABUSE; DRUGS: ALCOHOLS; METABOLITES	Plopp, T.A., Battista, R.J., Unterdoerfer, H., van Ditsmaach, W.C., Mees, R.A.A., 1981 Archives of Toxicology 48:245-252

2',6'-Acetoxybiphenyl, 2-(diethylamino)- (8 CI)
 Acetamide, 2-(diethylamino)-N-(2,6-diethylphenyl)- (9 CI)
 137-55-6
 C18-822-12-0
 MW 238.33, BP 68-69 C, MP 160-161 C at 4 mm Hg, 150-160 C at 2 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7473 Blood	Injection	GC	4 16	a) 0.28-0.09 ug/ml b) 0.04-0.15 ug/ml	a) Not given b) Not given	a) 120 and 480 min after 100 mg spinal injection. Initial measurement, 0.15 ug/ml at 15 min b) 15 and 60 min after 100 mg with 0.2 mg adrenalin. Final measurement, 0.08 ug/ml at 480 min Range of means, estimated from graph 45-75 yr old hospital patients undergoing minor operation BLOOD: ANESTHETICS; DRUG INTERACTION; DRUGS	Arslan, F. Hidano, S. 1981 Acta Anaesthesiologica Scandinavica 25:240-245
7474 Blood	Injection	GC	9	a) 1.3-0.09 ug/ml b) 1.2-0.07 ug/ml	a) Not given b) Not given	a) Fasting b) With food 0.5 and 4.5 hr after 150 mg for 15 min Range of means estimated from graph Healthy 23-34 yr olds ADULTS: BLOOD; ANESTHETICS; ANTIARRHYTHMIC AGENTS; DRUGS; FOODS	Zivin, A.T. Cole, A.F.D. Pieper, J.A. Holbin, S.H. Latta, D. 1981 Clinical Pharmacology and Therapeutics 30(4):455-461
7475 Blood	Ingestion	HPLC	1	a) Not applicable b) Not applicable c) Not applicable	a) 10 ug/ml b) 6.3 ug/ml c) 0 ug/ml	a) 1 hr b) 4 hr c) 30 hr After accidentally swallowing 1200 mg (38.7 mg/kg) intended for gargling Healthy 74 yr old, wt 31 kg Acute delirium (agitation, combativeness, and disorientation) 1-4 hr after ingestion ADULTS: BLOOD; ANESTHETICS; DRUGS; METABOLISM; NEUROTOXICITY	Prucillo, P.J. Gibson, W. Borison, S.H. 1982 New England Journal of Medicine 306(7):426-427
7476 Blood	Injection Inhalation	HPLC GC/MS	3	0.01-0.70 mg/dl	Not given	Suspected cocaine overdose fatalities 22-34 yr olds, Los Angeles County, CA CALIFORNIA; AUTOPSIES; BILK; BLOOD; URINE; DRUG ABUSE; DRUGS; NARCOTICS; FORENSIC MEDICINE; INHALATION	Katzev, G.P. Mogshi, T.T. 1981 Clinical Toxicology 18(8):895-905

28-1,2,4-Benzothiadiazine-7-sulfonamide, 6-chloro-, 1,1-dioxide
 58-94-6
 C7-H6-Cl-S3-O4-S2
 MW 295.76, BP 342.5-343 C (decap)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7477 Urine	Ingestion	HPLC	12	a) 31.49-56.17 mg b) 32.76-73.41 mg c) 50.50-104.56 mg	a) 44.30 $\pm$ 10.15 mg (35% of dose) b) 49.58 $\pm$ 14.83 mg (20% of dose) c) 79.63 $\pm$ 17.75 mg (16% of dose)	a) 135 mg solution b) 250 mg solution c) 500 mg solution 72 hr cumulative excretion Absorption-excretion not proportional to dose Healthy volunteers ADULTS: URINE; ANTIHYPERTENSIVE AGENTS; DIURETICS; DRUGS; COMPARATIVE EVALUATIONS; METABOLISM	Shah, V.P. Lee, J. Rast, J.P. Prasad, V.K. Cohen, B.R. Foster, T. 1981b Current Therapeutic Research 29(6):823-837

(NEXT PAGE)

TEST	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7a7b Urine	Ingestion	HPLC	12	a) 24-81 µg b) 18-105 µg c) 14-59 µg d) 18-59 µg	a) 45 ±or- 19 µg (16.0%) b) 52 ±or- 25 µg (20.7%) c) 42 ±or- 15 µg (16.7%) d) 61 ±or- 23 µg (28.5%)	a) 250 mg tablet from Danbury Pharmaceutical b) 250 mg tablet from Nylan Pharmaceutical c) 250 mg tablet from Merck Sharp and Dohme Laboratories d) 250 mg as sodium salt in solution (injectable form) Merck Sharp and Dohme Laboratories e) 72 hr cumulative excretion f) of dose Results suggest absorption both saturable and site specific g) Healthy volunteers, wt 68-107 kg, ht 152-198 cm ADULTS: URINE: ANTIHYPERTENSIVE AGENTS: DIURETICS; DRUGS; COMPARATIVE EVALUATIONS	Melling, P.G. Walker, D.M. Patel, R.B. Barbaliya, B.B. Porter, W.A. Amdoo, G.L. Foster, T.S. Shah, J.P. Shah, J.P. Prasad, V.K. 1981 Current Therapeutic Research 29(6):885-822
7a79 Urine	Ingestion	HPLC	12	a) 51-105 µg b) 34-76 µg c) 30-79 µg d) 25-79 µg	a) 80 ±or- 17.7 µg (16.0%) b) 50 ±or- 13.0 µg (10.0%) c) 54 ±or- 14.6 µg (10.8%) d) 54 ±or- 16.1 µg (10.2%)	a) 500 mg as sodium salt in solution (injectable form) from Merck Sharp and Dohme Laboratories c) 500 mg tablet from Nylan Pharmaceuticals d) 2 x 250 mg tablets from Danbury Pharmaceutical Cumulative 72 hr excretion of dose Absorption incomplete and erratic Healthy volunteers ADULTS: URINE: ANTIHYPERTENSIVE AGENTS: DIURETICS; DRUGS; COMPARATIVE EVALUATIONS	Shah, J.P. Lee, J. Hunt, J.P. Prasad, V.K. Gadana, B.S. 1981 Current Therapeutic Research 29(6):802-818

311. 5-Benzothiazepin-2-one, 5-(2-fluorophenyl)-1,3-dihydro-1-methyl-1H- (5Z)
162-5. 5-Benzothiazepin-2-one, 5-(2-fluorophenyl)-1,3-dihydro-1-methyl-1H- (9C)
16-182. 5-Benzothiazepin-2-one, 5-(2-fluorophenyl)-1,3-dihydro-1-methyl-1H- (9C)
313. 10, 16-167 C (also reported as 170-172 C)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	MEAN	GENERAL INFORMATION	REFERENCE
Testis Blood, Plasma	Ingestion	RTA	5	2.6-5.8 ug/ml	Not given	9 hr after 2 mg Range of means for days 1, 8, 15 during 14 day study with one dose per night. Healthy 21-60 yr olds with sleep difficulties Slightly reduced sleep latency, but no effect on sleep duration or number of awakenings. No effect on psychomotor performance. BLOOD PLASMA: DRUG THERAPY: DRUGS: HYPNOTICS	Linselle, W. Krahn, C.H. Brendle, A. 1982 Journal of Clinical Pharmacology 22:14-19

28-1,4-Benzodiazepin-2-one, 7-chloro-1-(2-(diethylamino)ethyl)-5-(p-fluorophenyl)-1,3-dihydro- (8 CI)
 28-1,4-Benzodiazepin-2-one, 7-chloro-1-(2-(diethylamino)ethyl)-5-(2-fluorophenyl)-1,3-dihydro- (9 CI)
 17617-23-1
 C21-H23-Cl-F-N3-O
 MW 387.81

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7881 Blood, plasma	Ingestion	GC	26	a) 5.3-19.6 ng/ml b) 11.5-20.2 ng/ml c) 8.2-15.1 ng/ml d) 19.6-28.1 ng/ml e) 40-65 ng/ml f) 38-183 ng/ml g) 63-182 ng/ml h) 59-151 ng/ml	a) 10.2 ng/ml b) 14.5 ng/ml c) 12.8 ng/ml d) 23.9 ng/ml e) 53 ng/ml f) 85 ng/ml g) 81 ng/ml h) 86 ng/ml	a) 7 young men, mean time to peak 8.1 hr b) 7 young women, mean time to peak 11.5 hr c) 6 elderly men, mean time to peak 26.5 hr d) 6 elderly women, mean time to peak 17.6 hr e) Group a), mean time to steady-state level 89 hr, 8 subjects f) Group b), mean time to steady-state level 78 hr, 5 subjects g) Group c), mean time to steady-state level 115 hr, 8 subjects h) Group d), mean time to steady-state level 108 hr, 5 subjects a)-d) Peak level desalkylflurazepam (metabolite) after single 15 mg dose e)-h) Steady-state level desalkylflurazepam after 15 mg nightly for 15 nights Time to peak (0.5-96 hr) not influenced by age Half-life longer in elderly men than in young men No evidence of increased sensitivity in elderly 19-36 yr old young subjects, and 61-85 yr old elderly subjects. Healthy, non-insomniac. ADULTS: BLOOD PLASMA; DRUG THERAPY: DRUGS; HYPOPTICS; METABOLISM: METABOLITES	Greenblatt, D.J., Divoll, M., Keown, J.S., Schenck, D.S., Shadish, D.S., 1981, <i>Br.J.</i> Clinical Pharmacology and Therapeutics 30(4):475-486

28-1,4-Benzodiazepin-2-one, 7-chloro-1,3-dihydro-1-methyl-5-phenyl-
 839-18-5
 C16-H13-Cl-N2-O
 MW 286.76, MP 125-126 °C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7882 Blood		GC TLC UV GC/MS Enzymatic	a) 1 b) 2 c) 3	a) 0-2.1 ng/l b) 0-2.6 ng/l c) 0-1.0 ng/l	a) Not given b) Not given c) Not given	a) Dose probably sufficient to contribute to signs and symptoms b) Doses probably less than toxic amounts c) Patients denied taking drug Results from 8 laboratories receiving identical samples for toxic screening Cerebral drugs identified in 8 of 10 samples No other drugs identified in 6 of 23 drugs reported present in serum of 20 patients Levels were variable and appeared idiosyncratic Probable drug overdose patients, Boston, MA REAGENTS: BLOOD; ANALGESICS: ANESTHETICS; ANTIDEPRESSANTS: AGENTS; ANTIPTICS; DRUG ABUSE: DRUGS; HYPOPTICS; NARCOTICS: SEDATIVES; TRANQUILIZERS; COMPARATIVE EVALUATIONS: ALCOHOLS; MEASUREMENT METHODS	Ingelfinger, J.A., Jackson, G., Shine, D., Costello, C.E., Goldman, P., 1981, <i>Clinical Pharmacology and Therapeutics</i> 29(5):570-575

(NEXT PAGE)

C 16-N13-C1-12-0
 280.76, MP 125-126 C

TISSUE	PROBABLE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	SAMPLE	MEAN	GENERAL INFORMATION	REFERENCE
7683 Blood	Ingestion	SIA	1	a) Not applicable b) Not applicable	a) 0.9 ug/l b) 0.6 ug/l	a) Diazepam b) Nordiazepam c) Valproic acid also present. d) Valproic acid detected in hydrolysis of valproic acid biphenylate 3 rd yr old suicide victim AUTOPSIES: SUICIDE; BLOOD; DRUG ABUSE; DRUGS: FORENSIC MEDICINE; INVESTIGATION METHODS	Cleburne, G. Foren, E. 1981 Journal of Analytical Toxicology 3: 286-299
7688 Blood			10	0.08-0.09 ug/100 ml	Not given	Drug induced fatalities. Ethanol in cases. 0.15-0.33 g/100 ml, methadone 12 cases, 0.01-0.26 ug/100 ml, diazepam 12 cases, 0.13-0.5 ug/100 ml, methadone 12 cases, 0.13-0.5 ug/100 ml, propoxyphene 12 cases, 0.02-0.09 ug/100 ml, and codeine 14 cases, 0.02 ug/100 ml also found. Autopsies, 1975-76, Los Angeles County, CA CALIFORNIA: AUTOPSIES: CASE PISCHKE; BLOOD; DRUG ABUSE; DRUGS; FORENSIC MEDICINE; ALCOHOLS	Wassner, G.P. Schmidt, R. Ziemann, G.C. 1979 Journal of Analytical Toxicology 3: 117-122
7689 Blood		Fluorometry	12	0.6-7.4 ug/ml	Not given	Deaths involving diazepam and codeine (0.1-0.2 ug/ml) Diazepam plus at least metabolites Wayne County, NY MICHIGAN: AUTOPSIES: DRUG ABUSE; DRUGS; METABOLITES; POST-MORTEM DRUGS; SERVICES	Monforte, J.A. 1977 Journal of Forensic Sciences 22 (4): 718-724
7696 Blood, Plasma	Injection	GC	6	a) 570-150 ug/ml b) 9-13 ug/ml c) 7-22 ug/ml d) 800-200 ug/ml e) 12-3 ug/ml f) 3-15 ug/ml	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) Total diazepam, 20 min and 8 hr after dose, 160 mg/ml at about 8 min b) Plasma free diazepam, 10 min and 8 hr after dose, 15 ug/ml at about 8 min c) Plasma total 9-methyl diazepam, 40 min and 8 hr after dose d) Same as b), 240 mg/ml at about 8 min e) Same as b), 30 mg/ml at about 8 min f) Same as c) Dose in a)-c) 10 mg IV, dose in d)-f) 10 mg IV, with plasma ethanol level 800-1000 mg/l Range of means, estimated from graph Healthy 21-32 yr olds BLOOD PLASMA: DRUG INTERACTIONS; DRUGS; SERUMS; TRANQUILLIZERS; ALCOHOLS; DIAZEPAM	Sellers, R.H. Wassner, G.P. Gill, R.C. Fischer, R.C. Sechler, S. 1980 Clinical Pharmacology and Therapeutics 28 (5): 638-645
7697 Blood, Plasma	Ingestion	GC-EC	110	16-1412 ug/ml	329 $\pm$ 272 ug/ml	2-6% w Diazepam/day (mean 19.9 mg/day). Correlation with age and highly significant correlation with dose. 28-50 yr old psychiatric patients, at at-116 kg, therapy 1-18 yr DEATHS: BLOOD PLASMA; SERUMS; DRUG INTERACTIONS; PHARMACOLOGY TERMINAL; METABOLITES; RUC	Greenblatt, D.J. Laudman, J.P. Allen, R.D. Herman, J.S. Tucker, J.L. 1981 British Journal of Clinical Pharmacology 31: 55-60

----- PAGE -----

28-1,4-Benzodiazepine-2-one, 7-chloro-1,3-dihydro-1-methyl-5-phenyl-
 604-75-1
 C15-H13-Cl-N2-O
 MW 286.76, MP 125-126 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7889 Breast	Injection	Radioactivity	a) 11 b) 17 c) 15 d) 27 e) 9	a) 15-30% b) 11-12% c) 8-11% d) 2-21% e) 11-31%	a) 26.6 $\pm$ 0.7% b) 18.0 $\pm$ 0.7% c) 11.8 $\pm$ 0.7% d) 11.8 $\pm$ 0.7% e) 15.7 $\pm$ 0.7%	a) Patients on anticonvulsants b) Controls c) Patients with hepatocellular disease d) Patients with hepatic neoplasia e) Patients with cholestasis 24 hr excretion of C-14 after 5 uCi (5 eq). Statistically significant differences at 6 hr and later. Estimated from graph 43-57 yr old hospital patients Confusion or dysarthria occurred in one control and 8 patients with hepatocellular disease DEATH: CHRONIC; LIVER DISEASE; DRUGS: ANALGESICS; ANTICONVULSANTS; ANTIPEPTICS; DRUG INTERACTION; DRUGS: TRANQUILIZERS; COMPARATIVE EVALUATIONS	Reper, G.W. Vesell, E.S. Lipton, A. Harvey, R.A. Wilkinson, G.P. Schechter, S. 1977 Journal of Laboratory and Clinical Medicine 90(3):440-456
7890 Urine	Injection	Radioactivity	a) 17 b) 17 c) 15 d) 9	a) Not given b) Not given c) Not given d) Not given	a) 16.1 $\pm$ 0.7% b) 16.0 $\pm$ 0.7% c) 3.3 $\pm$ 0.6% d) 15.5 $\pm$ 0.7%	a) Patients on anticonvulsants b) Controls with hepatocellular disease c) Patients with cholestasis 24 hr output of C-14 after 5 uCi (5 eq) 43-57 yr olds Confusion or dysarthria occurred in one control and 8 patients with hepatocellular disease DEATH: CHRONIC; LIVER DISEASE; DRUGS: ANALGESICS; ANTICONVULSANTS; ANTIPEPTICS; DRUG INTERACTION; DRUGS: TRANQUILIZERS; COMPARATIVE EVALUATIONS	Reper, G.W. Vesell, E.S. Lipton, A. Harvey, R.A. Wilkinson, G.P. Schechter, S. 1977 Journal of Laboratory and Clinical Medicine 90(3):440-456

28-1,4-Benzodiazepine-2-one, 7-chloro-1,3-dihydro-3-hydroxy-5-phenyl-
 604-75-1
 C15-H11-Cl-N2-O2
 MW 286.76, MP 205-206 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7890 Blood	OC IV	GC UV	1	a) Not applicable b) Not applicable	a) 1.6 mg/100g b) 1.0 mg/100g	a) Solvent extraction method b) Xib-2 resin bag extraction method Fetal overdose case Polead POLAR: BLOOD; SPIN: LIVER; DRUG ABUSE; DRUGS: NEUROLEPTIC DRUGS	Reper, G. Giert, J. Bialba, J. 1978b Forensic Science International 12:73-82

(SEE PAGE)

20-1,4-Benzodiazepin-2-one, 7-chloro-1,3-dihydro-3-hydroxy-5-phenyl-
608-75-1
C15-H11-Cl-82-02
MW 286.74, BP 205-206 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7891 Blood, Plasma	Ingestion	GC-EC	a) 22 b) 9	a) 242-1195 ng/ml b) 447-854 ng/ml	a) 646 ng/ml b) 653 ng/ml	a) Men b) Women Peak levels 2.2 (a) and 1.3 hr (b) after 30 mg. No significant differences Healthy 22-86 yr olds Mean drug clearance significantly higher in smokers AGE: SEX: BLOOD PLASMA: DRUGS: SEDATIVES: COMPARATIVE EVALUATIONS: SPORING	Oehme, H.R. Greenblatt, D.J. Otten, M. 1981 Klinische Woche-Charlitz 59:899-903
7892 Brain		GC SV	1	a) Not applicable b) Not applicable	a) 0.4 ug/100g b) 1.3 ug/100g	a) Solvent extraction method b) RAD-2 resin bag extraction method Fatal overdose case Poland POLAND: BLOOD: BRAIN: LIVER: DRUG ABUSE: DRUGS: MEASUREMENT METHODS	Boquam, M. Gierz, J. Bialka, J. 1978b Forensic Science International 12:73-82
7893 Liver		GC SV	1	a) Not applicable b) Not applicable	a) 10.1 ug/100g b) 14.5 ug/100g	a) Solvent extraction method b) RAD-2 resin bag extraction method Fatal overdose case Poland POLAND: BLOOD: BRAIN: LIVER: DRUG ABUSE: DRUGS: MEASUREMENT METHODS	Boquam, M. Gierz, J. Bialka, J. 1978b Forensic Science International 12:73-82

20-1,4-Benzodiazepin-2-one, 7-chloro-1,3-dihydro-5-phenyl-
1088-11-5
C15-H11-Cl-82-0
MW 270.73

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7894 Blood, Plasma	Ingestion	GC-EC	110	26-1599 ng/ml	369 $\pm$ 60-336 ng/ml	2-55 mg diazepam/day (mean 19.8 mg/day). Highly significant correlation with dose 28-49 yr old psychiatric patients, at 81-136 kg, therapy 1-14 yr DRUGS: BLOOD PLASMA: SEDATIVES: DRUG THERAPY: METABOLITES: AGE	Greenblatt, D.J. Leunen, T.P. Allen, R.G. Karelin, J.S. Savolainen, E.L. 1981 British Journal of Clinical Pharmacology 11:35-40

28-1,4-Benzodiazepin-2-one, 7-chloro-5-(o-chlorophenyl)-1,3-dihydro-3-hydroxy-1-methyl- (8 CI)
 28-1,4-Benzodiazepin-2-one, 7-chloro-5-(2-chlorophenyl)-1,3-dihydro-3-hydroxy-1-methyl- (9 CI)
 C16-R12-C12-R2-02
 MW 335.20

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7895 Blood, Plasma	Ingestion	BIA	5	a) 2.7-0.2 ug/ml b) 2.4-0.1 ug/ml c) 34-52 ug/ml d) 37-48 ug/ml	a) Not given b) Not given c) Not given d) Not given	a) 2 and 24 hr with hemodialysis treatment 24 hr without hemodialysis b) 2 and 8 hr, glucuronide metabolite, without hemodialysis. Final measurement 39 ug/ml at 48 hr d) 2 and 12 hr, glucuronide metabolite, with hemodialysis. Final measurement 40 ug/ml at 48 hr Hemodialysis 1-4 or 5 hr after dose Range of excretion, estimated from graph 36-45 yr old patients with terminal renal failure Drug biotransformation unaltered, but glucuronide metabolite excretion by a factor of 5 to 6 as a result of uremia ADULTS: KIDNEY DISEASES: BLOOD PLASMA: URINE: DRUG THERAPY: DRUGS: SEDATIVES: COMPARATIVE EVALUATIONS: PHARMACOKINETICS: PHARMACODYNAMICS: HEMODIALYSIS: PRENATAL: GERMANY	Kaspe, D. Kaspe, D. Kaspe, D. Kaspe, D. 1981 Clinical Pharmacology and Therapeutics 30(1):77-85
7896 Urine	Ingestion	BIA	5	a) Not given b) Not given	a) 0% of dose b) 3.8% of dose	a) 48 hr cumulative output b) 48 hr cumulative output, glucuronide metabolite After 1 mg dose 36-45 yr old patients with terminal renal failure Drug biotransformation unaltered, but glucuronide metabolite excretion by a factor of 5 to 6 as a result of uremia ADULTS: KIDNEY DISEASES: BLOOD PLASMA: URINE: DRUG THERAPY: DRUGS: SEDATIVES: COMPARATIVE EVALUATIONS: PHARMACOKINETICS: PHARMACODYNAMICS: GERMANY	Kaspe, D. Kaspe, D. Kaspe, D. Kaspe, D. 1981 Clinical Pharmacology and Therapeutics 30(1):77-85

28-1,4-Benzodiazepin-2-one, 7-chloro-5-(o-chlorophenyl)-1,3-dihydro-3-hydroxy- (8 CI)
 28-1,4-Benzodiazepin-2-one, 7-chloro-5-(2-chlorophenyl)-1,3-dihydro-3-hydroxy- (9 CI)
 C15-R10-C12-R2-02
 MW 321.16, MW 166-168 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7897 Antoxic fluid	Ingestion Ingestion	GC-EC	23	a) Not given b) Not given c) Not given d) Not given	a) 2.0 *or- 2.2 ug/ml b) 4.9 *or- 3.0 ug/ml c) 4.2 *or- 2.3 ug/ml d) 19.1 *or- 13.0 ug/ml	a) 0-2 hr after 2.0 mg IV. b) Same as a). Conjugated c) 11-15.5 hr after 2.5 mg, oral. d) Same as c). Conjugated Healthy pregnant women PHYS: BLOOD SERUM: URINE: DRUG THERAPY: DRUGS: SEDATIVES: PREGNANCY	Kanto, J. Kanto, J. Kanto, J. Kanto, J. 1980 Pharmacokinetics and Toxicology 47:130-134

(NEXT PAGE)

2N¹, 8-Benzodiazepin-2-one, 7-chloro-5-(o-chlorophenyl)-1,3-dihydro-1-hydroxy- (6 C)
 2N¹, 8-Benzodiazepin-2-one, 7-Chloro-5-(2-chlorophenyl)-1,3-dihydro-1-hydroxy- (9 C)
 466-45-1
 CYC-HO-C12-B2-02
 # 321, 16, MF 166-168 C

(continued)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	SAMPLE	REAR	GENERAL INFORMATION	REFERENCE
7a9g Blood, sebum	Injection Ingestion	GC-EC	23	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given l) Not given	1) 6.1 *or- 3.4 ng/ml 2) 18.1 *or- 17.2 ng/ml 3) 7.0 *or- 2.3 ng/ml 4) 31.5 *or- 23.7 ng/ml 5) 7.1 *or- 2.7 ng/ml 6) 4.6 *or- 2.6 ng/ml 7) 8.6 *or- 5.6 ng/ml 8) 23.5 *or- 11.7 ng/ml 9) 6.9 *or- 2.0 ng/ml 10) 4.8 *or- 3.6 ng/ml 11) 8.7 *or- 3.6 ng/ml 12) 25.6 *or- 13.3 ng/ml	a) 0.8-7.7 hr after 2.0 mg IR. Maternal vein. Unconjugated b) Same as a). Conjugated c) 11-15.5 hr after 2.5 mg oral. Maternal vein. Unconjugated d) Same as c). Conjugated e) Same as d). Unilateral vein f) Same as e). Unilateral vein g) Same as f). Unilateral vein h) Same as g). Unilateral vein i) Same as h). Unilateral artery j) Same as i). Unilateral artery k) Same as j). Unilateral artery l) Same as k). Unilateral artery m) a), b), e), f), i) and j) done given during first stage of labor. In other cases dose given slight before elective cesarean section Healthy pregnant women	Pantio, J. Autimon, E. Liukko, P. Meekola, E. 1980 Acta Pharmacologica et Toxicologica 47: 130-134

3-Heptanol, 6-(diethylamino)-6,8-diphenyl-, acetate (ester) (8 CI) (VA)
 Tricresolmethanol, beta-(2-(diethylamino)propyl)-alpha-ethyl-beta-phenyl-, acetate (ester) (9 CI) (VA)
 C-78-0
 C-23-R31-N-02
 MW 353.69, BP 193-217 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
T-99 Blood, plasma	Ingestion	GC	VI	a) 50-100 ng/ml b) 70-260 ng/ml c) 40-170 ng/ml	a) Not given b) Not given c) Not given	a) 5 and 13 days after start of C-73-0.92 mg/kg/8 hr. 70 ng/ml on day 19. Parent compound b) 3 and 13 days after start of C-73-0.92 mg/kg/8 hr. 220 ng/ml on day 19. Metabolite c) 3 and 13 days after start of C-73-0.92 mg/kg/8 hr. 140 ng/ml on day 19. Metabolite fooracetylaethadol range of means, estimated from graph treatment began 24 hr after discontinuation of methadone Patients on methadone maintenance program BLOOD PLASMA; DRUG THERAPY; DRUGS; NARCOTICS; COMPARATIVE EVALUATION.	Weidenberg, G.L. Weilburger, J.E., Margrave, M.A. Lau, D.N.M. Tyler, J. Sauer, B. Journal of Analytical Toxicology 1(1):1-5

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7500 Amniotic fluid	Ingestion	GC	10	0.07-0.39 ug/ml	Not given	Dose 10-100 mg/day, 1 sample/subject, 1-60 hr post-ingestion. Plasma levels 0.18-0.38 ug/ml. Amniotic fluid to plasma mean ratio 0.73 Patients on methadone Severe withdrawal symptoms in some newborn NEW YORK: NEWBORN: AMNIOTIC FLUID; BLOOD PLASMA: MILK; URINE: BREAST MILK; PLASMA: AMNIOTIC FLUID; THERAPY: DRUGS; MARCOPTICS; LACTATION; PREGNANCY	Blanch, B. Tarriff, C.E. Jensen, E. Sallech, R.C. 1975 American Journal of Obstetrics and Gynecology 121(5):619-621
7501 Amniotic fluid	Ingestion	GC	14	0.01-0.67 ug/ml	0.20 ug/ml	Dose 5-60 mg/day Methadone-maintained mothers All infants of mothers on methadone at time of delivery exhibited withdrawal symptoms. Severity positively correlated with total methadone administered last 12 hr of pregnancy, daily dose at delivery, and intrapartum serum level. NEWBORN: AMNIOTIC FLUID; BLOOD; URINE; DRUG THERAPY: DRUGS	Harper, R.D. Solish, G. Feligold, E. Gerten-Smolif, N.B. Sotol, R.B. 1977 American Journal of Obstetrics and Gynecology 129:1817-1824
7502 Fle	Ingestion	GC	1	a) 0.23-0.08 ug/ml b) 119.5-26.1 ug/ml c) 0.11-0.03 ug/ml	a) Not given b) Not given c) Not given	a) Methadone b) Pyrodoxine, methoholite of a) c) Pyrodoxine, methoholite of a) 0-6 and 18-24 hr after 100 mg 60 yr old surgical patient BILI: BLOOD PLASMA: DRUG THERAPY; DRUGS; MARCOPTICS; METABOLITES	Freck, R.J. Kallman, H. Jensen, E. Jaffar, M.P. Schaffner, R. 1983 Research Communications in Chemical Pathology and Pharmacology 29(1):67-78
7503 Blood	Ingestion	GC HPLC GC/MS Postnatic	1	0-0.4 ug/l	Not given	Dose probably less than toxic amount Results from 4 laboratories receiving chemical samples for toxicology Overdose cases identified in 508-708 of cases Laboratories agreed on 6 of 23 drugs reported present in serum of 20 patients Levels were variable and appeared inprecise. Probable drug overdose patients, Boston, MA MARCOPTICS; BLOOD; ANALYTICS; APPROPRIATE; METABOLITES; AGENTS; METABOLITES; DRUG ABUSE; DRUGS; METABOLITES; MARCOPTICS; SERVICES; TRANQUILIZERS; COMPARATIVE EVALUATIONS; ALCOHOLS; METABOLITES; METHODS	Topolinger, J.A. Kallman, H. Jensen, E. Jaffar, M.P. Schaffner, R. 1983 Clinical Pharmacology and Therapeutics 29(5):570-575

1
NEXT PAGE)

3-Meclonone, 6-(dimethylamino)-8,8-diphenyl-
76-99-3
C21-H27-N-O
MW 309.49

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	MEAN	GENERAL INFORMATION	REFERENCE
7506 Blood	Ingestion	GC	a) 4 b) 4	a) 42-1 ug/ml b) 120-180 ug/ml	a) Not given b) Not given	a) Non addicts. 1 and 24 hr after 10 mg/1.79 ug, 18, as hydrochloride. Marijuana in gastric fluid 2800 ng/ml at 3 hr b) Steroids addicts on methadone. 1 hr after 100 ug, 18, as hydrochloride. Marijuana in gastric fluid 2800 ng/ml at 2 hr Range of means estimated from graph Healthy subjects between 20 and 30 yr BLOOD; SALIVA; DRUG ABUSE; DRUGS; NARCOTICS	Lyne, R.H. Olson, G.D. Legat, R.M. Gordon, G.P. Smith, R.D. Kramer, R. 1975 Drug Metabolism and Disposition 4(4):504-509
7505 Blood	Ingestion	GC	1	a) 95-50 ug/ml b) 0.7-3.7 ug/ml	a) Not given b) Not given	a) Methadone. 2 and 24 hr after 75 ug. Initial measurement. 67 ng/ml b) Pyridine metabolite for a), a and 24 hr. Initial measurement, 4.0 ng/ml Methadone maintenance patient BLOOD; DRUG THERAPY; DRUGS; NARCOTICS; MEASUREMENT METHODS; METABOLITES	Jacob, P. Rigod, J.P. Pond, S.M. Benowitz, N.L. 1981 Journal of Analytical Toxicology 5:292-295
7506 Blood			2	0.01-0.06 ug/100 ml	Not given	Drug induced fatalities. Ethanol, 0.10-0.15 g/100 ml also found. Autopsies, 1975-76, Los Angeles County, CA CALIFORNIA; AUTOPSIES; CASE HISTORIES; BLOOD; DRUG ABUSE; DRUGS; FORENSIC MEDICINE; ALCOHOLS	Wakamura, G.H. Waguchi, Y.T. Grissmer, E.C. 1979 Journal of Analytical Toxicology 3:137-142
7507 Blood	Ingestion	GC	a) 6 b) 6 c) 6	a) 35-5.2 ug/ml b) 25-6 ug/ml c) 15-3.5 ug/ml	a) Not given b) Not given c) Not given	a) 2 and 72 hr after 15 ug d,l-methadone. 30 ng/ml at 1 hr b) 2 and 48 hr after 1.5 ug d,l-methadone. 7.5 ng/ml c) 2 and 72 hr after 7.5 ug l-methadone. 13 ng/ml at 1 hr Range of means, estimated from graph a) and c) had greater effects on respiration Healthy 21-35 yr olds Respiratory depression and ataxia. Antidromic effect BLOOD; ANALGESICS; DRUGS; NARCOTICS; COMPARATIVE EVALUATIONS	Olson, G.D. Wendel, R.A. Livermore, J.D. Legat, R.M. Smith, R.H. Garber, R. 1977 Clinical Pharmacology and Therapeutics 21(2):147-157
7508 Blood, Total		GC	19	0-0.12 ug/ml	0.05 ug/ml	Marijuana daily dose 5-60 mg. Infants of methadone-maintained mothers All infants of mothers on methadone at time of delivery exhibited withdrawal symptoms. Severity positively correlated with total maternal dose during last 12 wk of pregnancy. Daily dose at delivery, and intrapartum serum level. NEPHROUS; AMNIOTIC FLUID; BLOOD; URINE; DRUG THERAPY; DRUGS	Warner, P.S. Soltes, G. Paingold, E. Scheuenstuhl, H.B. Smith, R.H. 1977 American Journal of Obstetrics and Gynecology 129:417-424

(NEXT PAGE)

3-Heptanone, 6-(diethylamino)-9,9-diphenyl-
76-99-3
C21-H27-N-O
MW 309.49

(CONTINUED)

TISSE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7509 Blood, plasma		GC	13	a) 0.18-0.53 ug/ml b) 0.08-0.28 ug/ml c) 0.02-0.53 ug/ml	a) 0.358 ug/ml b) 0.175 ug/ml c) 0.377 ug/ml	a) 3 reliable patients. Steady state level. Mean daily dose 1.13 ug/kg b) Same as a) following one day dose c) 10 patients at clinic, random selection. Mean daily dose 1.25 ug/kg High variance in c) (48.4%) suggested prescribed dose not taken. Methadone maintenance patients BLOOD PLASMA; DRUG THERAPY; DRUGS; NARCOTICS	Verebely, E. Kett, R. 1975 Research Communications in Chemical Pathology and Pharmacology 11(3):373-386
7510 Blood, plasma	Ingestion	GC	11	149-53 ug/ml	Not given	1 and 5 days after discontinuation of 0.62-1.00 mg/kg/day Patients on methadone maintenance program BLOOD PLASMA; DRUG THERAPY; DRUGS; NARCOTICS; COMPARATIVE EVALUATIONS	Henderson, G.L. Weinberg, J.A. Hargreaves, R.A. Lao, D.S.-R. Tyler, J. Saher, B. 1977 Journal of Analytical Toxicology 1(1):1-5
7511 Blood, plasma	Ingestion	GC	25	a) 0.18-0.48 ug/ml b) 0.05-0.38 ug/ml c) 0.04-0.25 ug/ml d) 0.06-1.66 ug/ml	a) Not given b) Not given c) Not given d) Not given	a) Dose 30-100 mg/day. 18-40 wk gestation. Amniotic fluid levels 0.07-0.39 ug/ml (10 cases) b) Dose 40-100 mg/day. 38-41 wk gestation (12 cases) c) Umbilical cord plasma for b). Mean ratio of c) to b) 0.57 d) Dose 10-40 mg/day. 3-10 days postnatal (10 cases). Levels in milk 0.05-0.57 ug/ml Patients on methadone Severe withdrawal symptoms in some newborns NEW YORK: NEWBORN; AMNIOTIC FLUID; BLOOD PLASMA; MILK; URINE; DRUG THERAPY; DRUGS; NARCOTICS; LACTATION; PREGNANCY	Blinick, G. Inturrial, C.R. Jerez, R. Sallach, R.C. 1975 American Journal of Obstetrics and Gynecology 121(3):617-621
7512 Blood, plasma	Ingestion	GC	11	40-420 ug/ml	Not given	Dose 20-65 mg/day. Weekly measurements over 5-28 wk. Dose self adjusted (as such as 5 mg/kg). Large fluctuations in plasma levels per given dose. No relationship between plasma level and symptom complaints. Patients in methadone treatment program BLOOD PLASMA; DRUG THERAPY; DRUGS; NARCOTICS	Horne, W.H. Rado, R. Goldstein, A. 1975 Clinical Pharmacology and Therapeutics 17(6):636-649
7513 Blood, plasma	Ingestion	GC	1	0.93-0.42 ug/ml	Not given	3 and 24 hr after 100 mg. 0.66 ug/ml at 2 hr 60 yr old surgical patient BILE; BLOOD PLASMA; DRUG THERAPY; DRUGS; NARCOTICS; METABOLITES	Kreck, H.-J. Kalman, R. Iwein, R. Jeffery, R.P. Schiffman, R. 1980 Research Communications in Chemical Pathology and Pharmacology 29(1):67-78

(SEE PAGE)

3-Heptanone, 6- (diethylamino) -8,8-diphenyl-
76-95-3
C21-H27-N-O
PM 309.49

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUBJECTS OF CASES	DOSE	HEAM	GENERAL INFORMATION	REFERENCE
7518 Blood, serum	Ingestion	GC	20	9-2.66 ug/ml	0.19 ug/ml	Maternal intrapartum series. Daily dose 5-60 mg. Methadone-maintained mothers All infants of mothers on methadone at time of delivery exhibited withdrawal symptoms. Severity positively correlated with total maternal dose during last 12 wk of pregnancy. Daily dose at delivery, and intrapartum dose level. SYMPOSM: AMNIOTIC FLUID; BLOOD; URINE; DRUG THERAPY; DRUGS; NARCOTICS	Harter, R.G. Polish, G. Reingold, E. Scheffer, R.B. Sobel, M.B. 1977 American Journal of Obstetrics and Gynecology 129:417-424
7515 Milk	Ingestion	GC	10	0.05-0.57 ug/ml	Not given	Dose 10-40 mg/day, 1 sample/subject, 3-10 days postpartum. Mean milk to plasma ratio 0.81 Patients on methadone Severe withdrawal symptoms in some newborns SYMPOSM: AMNIOTIC FLUID; BLOOD PLASMA; MILK; URINE; DRUG THERAPY; DRUGS; NARCOTICS; LACTATION; PREGNANCY	Blasick, G. Intarini, C.P. Jerez, E. Wellsch, R.C. 1975 American Journal of Obstetrics and Gynecology 121(5):617-621
7516 Saliva	Injection	GC	a) 6 b) 6	a) 20-63 ug/ml b) 2500-820 ug/ml	a) Not given b) Not given	a) Roadside, 0.5 and 1 hr after 10 mg/1.75 ug mg/kg of hydrochloride. Final measurement at 0.5 hr b) Ex-heroin addicts, 3 and 7 hr after 53.7-80.5 mg/kg, as hydrochloride. Initial measurement 960 ng/ml at 0.5 hr Range of means estimated from graph Healthy subjects between 20 and 100 yr SYMPOSM: AMNIOTIC FLUID; BLOOD; URINE; DRUG THERAPY; DRUGS; NARCOTICS	Lynn, R.G. Olson, J.D. Leger, R.B. Sobel, M.B. Sullivan, R.G. Sutter, M. 1975 Drug Metabolism and Disposition 3(3):504-509
7517 Urine	Ingestion	GC	6	a) 7.4-23% of dose b) 1.6-22% of dose c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) 2.9-24% of dose h) 14-43% of dose	a) Not given b) Not given c) 28% of dose d) 14% of dose e) 11% of dose f) Not given g) Not given h) Not given	a) 10 mg/day (5 subjects) b) Same as a), methadone (2-ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine-1-yl) c) 25 mg/day (1 subject) d) Same as c), 8-1 e) 50 mg/day (1 subject) f) 50 mg/day (5 subjects) g) Same as d), 8-1 h) Same as d), 8-1 Mean daily output for 5 day periods. Ratio of a-f to methadone increased with increasing dose. Six other metabolites identified. 70-90 yr old detoxified opiate addicts, Sweden SYMPOSM: DRUG THERAPY; DRUGS; NARCOTICS; METABOLITES; URINE	Angard, E. Sore, L.-N. Volstrand, J. McMahon, R.E. Sandberg, C.-G. Sullivan, R.B. 1975 Clinical Pharmacology and Therapeutics 17(3):258-266

(REIT PAGE)

3-methoxycarbonyl-6-(diethylamino)-8,8-diphenyl-
76-94-3
C21-827-N-O
NS 309.49

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUBJECTS OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7516 Urine	Ingestion	GC	13	a) 0.25-49.00 ug/ml b) 0.12-6.07 ug/ml c) 0.12-5.50 ug/ml d) 0.10-3.00 ug/ml	a) Not given b) Not given c) Not given d) Not given	a) 9 mothers, pre-delivery. Dose 10-100 mg/day. 1 sample/subject b) 10 newborns, 1st day c) 10 newborns, 2nd day d) 9 newborns, 3rd day Patients on methadone Severe withdrawal symptoms in some newborns NEW TOX: NEWBORN: ANESTHETIC FLUID; BLOOD PLASMA: MILK; URINE; DRUG THERAPY: DRUGS; NARCOTICS; LACTATION; PREGNANCY	Blumich, G. J. Pharm. Med. 1975 Wallich, R.C. American Journal of Obstetrics and Gynecology 121(5):617-621
7519 Urine		GC	10	a) 0.095-6.2 ug/ml b) 0.01-15 ug/ml	a) 1.49 ug/ml b) 4.08 ug/ml	a) 16 newborns of methadone-maintained mothers. Maternal dose 5-60 mg/day b) 14 mothers All infants of mothers on methadone at time of delivery exhibited withdrawal symptoms. Severity positively correlated with total maternal dose during last 12 wk of pregnancy, daily dose at delivery, and intrapartum serum level. NEWBORN: ANESTHETIC FLUID; BLOOD; URINE; DRUG THERAPY; DRUGS	Harper, R.G. Solish, G. Feingold, S. Schacter, S. Solish, R.S. 1977 American Journal of Obstetrics and Gynecology 129:417-424

3,5-pyrazolidinedione, 4-butyl-1,2-diphenyl-
56-33-9
C19-820-R2-02
NS 306.37, NP 105 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SUBJECTS OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7520 Blood, plasma	Ingestion	HPLC	6	a) 83-98 ug/l b) 81-112 ug/l c) 75-115 ug/l	a) Not given b) Not given c) Not given	a) Total phenylbutazone, after 200 mg/day. Unbound fraction 0.8-2.4 ug/l. Oxyphenbutazone (OPB) level 17-23 ug/l. OPB 5-15 ug/l b) 23 ug/l. OPB 5-15 ug/l. Unbound fraction 1.7-3.1 ug/l. OPB 7-18 ug/l c) Total phenylbutazone, after 400 mg/day. Unbound fraction 2.2-5.0 ug/l. OPB 5-15 ug/l Steady-state levels Estimated from graph 56-65 yr old rheumatoid arthritic patients RHEUMATOID ARTHRITIS; BLOOD PLASMA; ANTI-INFLAMMATORY AGENTS; DRUG THERAPY; DRUGS	Higbee, C. Acosta, I. Folt, P.J. Higbee, R. Solish, R. 1981 British Journal of Clinical Pharmacology 12:123-129

3H-1,4-Benzodiazepine, 7-chloro-2-(methylindol-5-phenyl)-, 4-oxide (8 CI)
 3H-1,4-Benzodiazepine, 7-chloro-2-(methylindol-5-phenyl)-, 4-oxide (9 CI)
 56-25-3
 C16-H14-Cl-EU-0
 MW 299.75, MP 236-236.5 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7521 Blood		GC TLC UV GC/MS Enzymatic	a) 1 b) 1	a) 1.2-9.8 ug/l b) 0-0.1 ug/l	a) Not given b) Not given	a) Dose probably less than toxic amount b) Patient denied taking drug Results from 4 laboratories receiving identical samples for toxic screens Overdose drugs identified in 50% of 70% of cases. Laboratories agreed on 6 of 23 drugs reported present in serum Levels variable and appeared inprecise. Probable drug overdose patients, Boston, MA MASSACHUSETTS: BLOOD: ANALGESICS: ANTI-CONVULSANTS: ANTIDEPRESSIVE AGENTS: ANESTHETICS: DRUG ABUSE: DRUGS: HYPNOTICS: PSYCHOTROPICS: SEDATIVES: TRANQUILIZERS: COMPARATIVE EVALUATIONS: ALCOHOLS: MEASUREMENT METHODS Wachman, M.A. Brooks, M.A. Journal of Forensic Toxicology 22(1):195-196	Inhoffinger, J.A. Isakson, G. Shlee, D. Goldstein, C.E. Goldstein, P. 1981 Clinical Pharmacology and Therapeutics 29(5):570-575
7522 Blood, plasma	Ingestion	HPLC	a) 1 b) 1	a) 1.30-0.040 ug/ml b) 0.040-0.11 ug/ml c) 1.30-0.053 ug/ml d) 0.056-0.10 ug/ml	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 0.5 and 48 hr. <0.049 ug/ml at 60 hr. reductive asperometric detector b) 0.5 and 60 hr. reductive asperometric detector c) 0.5 and 48 hr. <0.050 ug/ml at 60 hr. reductive asperometric detector d) 0.5 and 60 hr. reductive asperometric detector After 10 mg dose (plus 25 mg salicylate) twice daily BLOOD PLASMA: DRUGS: MEASUREMENT METHODS	Wachman, M.A. Brooks, M.A. Journal of Forensic Toxicology 22(1):195-196

4 (3H)-Quinazolinone, 2-methyl-3-methyl- (8 CI)
 4 (3H)-Quinazolinone, 2-methyl-3-(2-methylphenyl)- (9 CI)
 72-44-6
 C16-H14-EU-0
 MW 250.29, MP 120 C, also given as 116-116 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7523 Blood		GC/MS UV	3	Not detected-19 ug/l	Not given	Suicide victims. Dose unknown. AUTOPSIES: SUICIDE: BLOOD: LIVER: URINE: DRUG ABUSE: DRUGS: METABOLITES: SWEDEN	Bonnachsen, R. Hilde, Y. Hilde, R. 1979 Clinical Chemistry 20(1):230-235
7524 Blood	Injection Inhalation	BIA GC/MS	2	0.01-0.30 ug/dl	Not given	Suspected cocaine overdose fatalities 24 and 36 yr old, Los Angeles County, CA CALIFORNIA: AUTOPSIES: BILE: BLOOD: URINE: DRUG ABUSE: DRUGS: NARCOTICS: FORENSIC MEDICINE: INHALATION	Wachman, M.A. Hoguchi, T.T. Journal of Forensic Toxicology 14(8):895-905

(CONT. PAGE)

(continued)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	SAMPLE	DEATH	GENERAL INFORMATION	REFERENCE
7525 Blood, serum	Ingestion	UV	59	1-12 mg/l	5 + or - 3 mg/l	Cases documented. San Diego Hospital 1977-1980. Other drugs also present. 13-52 yr olds mean 27 yr, CA Depressed level of consciousness (at levels > 9 mg/l). Tachycardia, dysarthria, hyporeflexia, nystagmus, mydriasis, ataxia CALIFORNIA: BLOOD SERUM: DRUG ABUSE: DRUGS: HYPNOTICS; SEDATIVES	Bailey, D.W. 1981 Journal of Analytical Toxicology 5:279-283
7526 Liver		GC/MS UV	3	Not detected-84 mg/kg	Not given	Suicide victims. Dose unknown. AUTOPSES: SUICIDE; BLOOD; LIVER; URINE: DRUG ABUSE; DRUGS; METABOLITES; SWEDEN	Bonnichsen, B. Marde, Y. 1978 Clinical Chemistry 20(2):230-235
7527 Urine		GC/MS UV	3	16-45 mg/l	Not given	Suicide victims. Dose unknown. AUTOPSES: SUICIDE; BLOOD; LIVER; URINE: DRUG ABUSE; DRUGS; METABOLITES	Bonnichsen, B. Marde, Y. 1978 Clinical Chemistry 20(2):230-235
7528 Urine	Ingestion	GC	a) 1 b) 1 c) 1 d) 1 e) 1	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 35-61 mg b) 67-17 mg c) 35-28 mg d) 84-20 mg e) 80-50 mg	a) 24 hr cumulative excretion after 300 mg b) Same as a) c) Same as a) d) 24 hr cumulative excretion after last dose (2 300 mg tablets taken 24 hr apart) e) Same as d) f) Same as d) g) 5 metabolites. Data also given for individual metabolites: 2-methyl-3-f2-(hydroxyethyl)phenyl)-4(3H)-quinazolinone, and 2-methyl-3-(2-ethyl-4-hydroxyphenyl)-4(3H)-quinazolinone were the principal metabolites Health volunteers Drowsiness began 45 min after ingestion and persisted 3 hr. Slurred speech in some individuals. URINE: DRUGS; NARCOTICS; TRANQUILIZERS; METABOLITES	Kayak, L. Keller, J.A. Celler, J.A. Droge, R.B. Milbert, L.B. Peraloha, R.C. 1977 Clinical Chemistry 23(11):2001-2006
7529 Urine	Ingestion	GC/MS	3	a) 0.118-0.20% of dose b) 23-44% of dose	a) Not given b) Not given	a) Unmetabolized drug b) 5 metabolites c) 200-400 mg dose cumulative excreted after 200-400 mg dose Data also given for individual metabolites Estimated from graph 27-52 yr old volunteers DEATH: DRUGS; HYPNOTICS; METABOLITES	Ericsson, O. Danielsson, B. 1977 Metabolism and Pharmacokinetics 5(6):497-502
7530 Urine	Ingestion		1	0.57-0.16 mg/ml	Not given	2 and 26 hr after 250 mg as hydrochloride Healthy volunteer URINE: DRUGS	Titstone, W.J. Reavey, P.C. 1975 Clinical Pharmacology and Therapeutics 17(1):11

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
75.31 Blood serum	Ingestion	Microbiological	21	0-0.3 sq/1	Not applicable	1 and 4 hr after 250 sq. oral. Initial measurement 1.5 sq/1 at 0.3 hr Range of means, estimated from graph BLOOD SERUM; CEREBROSPINAL FLUID; DINCS	Munch, R. Luthy, R. Blaser, J. Siegenthaler, W. Journal of Anticarcinol Chemotherapy 9:29-37
75.12 Cerebrospinal fluid	Ingestion	Microbiological		a) 0.5-2.0 sq/1 b) 0.2-0.5 sq/1	a) Not given b) Not given	a) 0.5 and 4 hr after 250 sq. Final measurement 1.5 sq/1 at 6 hr b) 2 and 4 hr after 250 sq. Estimated from graph BLOOD SERUM; CEREBROSPINAL FLUID; DINCS	Munch, R. Luthy, R. Blaser, J. Siegenthaler, W. 1961 Journal of Anticarcinol Chemotherapy 9:29-37

n-Heptane-2-carboxylic acid, 6-(2-amino-2-(*p*-hydroxyphenyl)acetamido)-2,3-dimethyl-7-octeno-, 9- (8 CI)
n-Heptane-2-carboxylic acid, 4-(4-aminophenylacetyl amino)-2,3-dimethyl-7-octo-, 4*S*, 5*R*ph, 6*SR*, 6*SR*i (50%) - (9 CI)
 mp 365.4°, bp 190°C (Decaraphthalenesulfonate trihydrate)

ANALYTICAL METHOD	NUMBER OF CASES	DRUG	MEAN	SPECIAL INFORMATION	REFERENCE
Isolation	22	a) 3.7-7.8 u/ml b) 0.6-1.6 u/ml c) 8.0-22.5 u/ml d) 3.7-12.6 u/ml e) 7.5-18.0 u/ml	a) 5.2 u/ml - 0.7 u/ml b) 0.9 u/ml - 2.2 u/ml c) 13.2 u/ml - 1.2 u/ml d) 9.7 u/ml - 1.3 u/ml e) 10.5 u/ml - 1.1 u/ml	a) Cholecystic bile, cystic duct open, 70-110 min, 6 cases b) Cholecystic bile, cystic duct closed, 70-110 min, 4 cases c) Cholelithal bile, 70-110 min, 18 cases d) Cholecystic bile, cystic duct open, 120-160 min, 6 cases e) Cholelithal bile, 120-160 min, 5 cases Times after 1, 2, 14 Samples taken during surgery Serum bile and tissue levels 24 higher than with standard dose of aspirillin 22-69 yr old patients, wt 45-77 kg ADULTS: INFECTIONS: BILE; BLOOD SEUM: GALL BLADDER; LIVER; LUNGS; ANTIBIOTICS: DRUG THERAPY; DRUGS; COMPARATIVE EVALUATIONS; SURGERY	Fiss, I. J. Farago, E. Schwartz, J. Vaiszt, I. International Journal of Clinical Pharmacology, Therapy and Toxicology 19(2):61-74
Isolation	49 9	a) 7.0-17.0 u/ml b) 8.0-19.0 u/ml c) 8.5-13.2 u/ml d) 3.5-12.0 u/ml	a) 11.7 u/ml - 1.0 u/ml b) 12.7 u/ml - 1.7 u/ml c) 11.0 u/ml - 2.0 u/ml d) 10.8 u/ml - 1.1 u/ml	a) Lung operations, 40-110 min b) Lung operations, 120-160 min c) Biliary operations, 70-110 min d) Biliary operations, 120-160 min Times after 1, 2, 14 Samples taken during surgery Serum, bile, and tissue levels 24 higher than with smaller dose of aspirillin 22-70 yr old patients, wt 45-82 kg ADULTS: INFECTIONS: BILE; BLOOD SEUM: GALL BLADDER; LIVER; LUNGS; ANTIBIOTICS: DRUG THERAPY; DRUGS; COMPARATIVE EVALUATIONS; SURGERY	Fiss, I. J. Farago, E. Schwartz, J. Vaiszt, I. International Journal of Clinical Pharmacology, Therapy and Toxicology 19(2):61-74

8-Thia-1-oxabicyclo(3.2.0)heptane-2-carboxylic acid, 6-(2-amino-2-(p-hydroxyphenyl)acetamido)-3,3-dimethyl-7-oxo-, D- (8 CI)
 8-Thia-1-oxabicyclo(3.2.0)heptane-2-carboxylic acid, 6-((amino (4-acyloxyphenyl) acetyl) amino)-3,3-dimethyl-7-oxo-, (2S-(2alpha, 3alpha, 6beta (S))) - (9 CI)
 26787-78-0
 C16-H19-N3-O5-S
 MW 365.41, MP 194 C (beta-sapthalemesulfonate trihydrate)
 (CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7535 Gall bladder	Injection	Microbiological	a) 11 b) 9	a) 3.0-7.0 ug/ml b) 0.6-6.8 ug/ml	a) 5.1 $\pm$ 0.4 ug/ml b) 4.8 $\pm$ 0.6 ug/ml	a) 70-110 min b) 120-160 min Times after 1 g. IM Surgical samples of gallbladder wall Serum, bile, and tissue levels 2X higher than with smaller dose of ampicillin 22-69 yr old patients, wt 45-77 kg ADULTS: INFECTIONS: BILE: BLOOD SERUM: GALL BLADDER: LIVER: LUNGS: ARTHRITIS: DRUG THERAPY: DRUGS: COMPARATIVE EVALUATIONS: SURGERY	Kise, I.-J. Parago, E. Schaltzler, J. Vachely, I. 1981 International Journal of Clinical Pharmacology, Therapy and Toxicology 19(2):67-74
7536 Liver	Injection	Microbiological	a) 13 b) 6	a) 0.5-6.6 ug/g b) 0.4-2.6 ug/g	a) 4.8 $\pm$ 0.5 ug/g b) 1.7 $\pm$ 0.3 ug/g	a) 70-110 min b) 120-160 min Times after 1 g. IM Surgical samples Serum, bile, and tissue levels 2X higher than with smaller dose of ampicillin 22-69 yr old patients, wt 45-77 kg ADULTS: INFECTIONS: BILE: BLOOD SERUM: GALL BLADDER: LIVER: LUNGS: ARTHRITIS: DRUG THERAPY: DRUGS: COMPARATIVE EVALUATIONS: SURGERY	Kise, I.-J. Parago, E. Schaltzler, J. Vachely, I. 1981 International Journal of Clinical Pharmacology, Therapy and Toxicology 19(2):67-74
7537 Lung	Injection	Microbiological	19	a) 2.4-10.0 ug/g b) 1.0-6.4 ug/g c) 1.0-2.5 ug/g d) 0.5-2.2 ug/g	a) 5.6 $\pm$ 0.8 ug/g b) 3.9 $\pm$ 0.8 ug/g c) 4.8 $\pm$ 0.3 ug/g d) 1.5 $\pm$ 0.3 ug/g	a) 9 cases normal lung tissue, 40-110 min b) 5 cases tumorous lung tissue, 50-110 min c) 10 cases normal lung tissue, 120-160 min d) 5 cases tumorous lung tissue, 120-160 min Times after 1 g. IM Surgical samples Serum, bile, and tissue levels 2X higher than with smaller dose of ampicillin 22-70 yr old patients, wt 54-80 kg ADULTS: INFECTIONS: BILE: BLOOD SERUM: GALL BLADDER: LIVER: LUNGS: ARTHRITIS: DRUG THERAPY: DRUGS: COMPARATIVE EVALUATIONS: SURGERY	Kise, I.-J. Parago, E. Schaltzler, J. Vachely, I. 1981 International Journal of Clinical Pharmacology, Therapy and Toxicology 19(2):67-74

4,4'-Stilbenedio[1,2-*b*,1'-*b'*]bis(2-phenyl-5-ethoxy-1,3,4-oxadiazole), (E)- (9 CI)
 56-53-1
 C18-H20-O2
 MW 266.36, NP 172 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	MEAN	GENERAL INFORMATION	REFERENCE
7538 Blood, plasma	Ingestion	BIA GC/MS	2	a) 1.2-2.4 mg/ml b) 0.4-1.5 mg/ml c) 0.7-2.7 mg/ml	a) Not given b) Not given c) Not given	a) 1.5-2 hr after first of three 1 mg doses/day b) Secondary peaks at about 5-6 hr c) 1.5-2 hr after second dose Range of peaks, estimated from graph Plasma testosterone levels low in 4 of 5 patients Patients with cancer of the prostate NEOPLASMS: BLOOD PLASMA; DRUG THERAPY: DRUGS; MONITORING: CHEMOTHERAPY; MEASUREMENT METHODS:	Knap, H.A. Knap, G.F. Knap, G.F. Pine, R.H. Gaskell, S.V. Quinn, R.S. Harper, R.S. Griffiths, R. 1981 Cancer Research 61:469-4697

5-(6-(18,18-Dimethyl-5-ethylidene-5-phenyl-1,3,4-oxadiazol-2-yl)-5-ethoxy-1,3,4-oxadiazol-2-yl)-5-ethoxy-1,3,4-oxadiazole, (E)- (9 CI)
 C12-H14-N2-O2
 MW 218.25, NP 281-282 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7539 Blood, plasma	Ingestion	GC	1	a) 98.5-300 ng/l b) 51-18 ng/l	a) Not given b) Not given	a) 90 min and 96 hr b) 96 hr c) 96 hr Measurement 24 hr after initial dose of 250 mg/day at about 90 min. Metabolite (phenobarbital) Verdone of 50 250-mg capsules Tablets and 100 100-mg Diltiazem capsules. 26 yr old epilepsy patient Ischemic, atonic and dysarthric in status II coma. Borderline intracranial pressure and intracranial conduction delay and a sinus tachycardia (110 beat per min). SUICIDE; BLOOD PLASMA; ANTICONSULTANTS; DRUG MONITORING; DRUGS	Matzke, G.F. Cloyd, J.C. Sachdev, P.J. 1981 Journal of Clinical Pharmacology 21:92-99
7540 Blood, serum	Ingestion	GC	19	a) 5.0-13.4 ng/l b) 2.3-34.6 ng/l c) 1.4-9.9 ng/l d) 1.4-11.2 ng/l e) 0.9-1.9 ng/l f) 2.3-16.1 ng/l	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) Phenytoin, 10 cases b) Phenytoin, 10 cases c) Phenytoin, 10 cases d) Phenytoin, 10 cases e) Phenytoin, 10 cases f) Phenytoin, 10 cases Steady state release after initial 250 mg dose and 75-250 mg/day maintenance regimen monotherapy (a-c) and combination therapy with other antiepileptic drugs (d-f) 17-49 yr old seizure patients AIMS: CENTRAL NERVOUS SYSTEM DISEASES: BLOOD SERUM; ANTICONSULTANTS; DRUG THERAPY; DRUGS; COMPARATIVE EVALUATIONS; METABOLITES	Cloyd, J.C. Miller, A.S. Leppik, L.E. 1981 Clinical Pharmacology and Therapeutics 29(3):402-407

(NEXT PAGE)

9,6(10,5m)-Pyrimidinone, 5-ethylidene-5-phenyl-
125-33-7
C12-R14-R2-02
MW 210.25, MP 261-262 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
75a1 Blood, serum	Ingestion	GC	10 10	a) 0.8-2.5 ug/l b) 0.5-1.2 ug/l	a) Not given b) Not given	a) 3 and 28 hr after 250 mg. Initial measurement 2.6 ug/l at 1 hr. 28 hr after 250 mg. Initial measurement 2.5 ug/l at 1 hr. Combination therapy patients Range of means, estimated from graph 17-69 yr old seizure patients ADULTS: CENTRAL NERVOUS SYSTEM DISEASES: BLOOD SERUM. THERAPY: DRUGS: ANTICONSULANTS: DRUG THERAPY: DRUGS: COMPARATIVE EVALUATIONS: SEIZURES	Clond, J.C. 1981 Kilgus, J.S. 1981 Clinical Pharmacology and Therapeutics 28(3):402-407

5-Oxa-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-((carboxy(4-hydroxyphenyl)acetyl)amino)-7-methoxy-3-((1-methyl-1H-tetrazol-5-yl)thio)ethyl-8-oxo-
6452-97-2
C20-R20-R6-05-S
MW 520.52

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
75a2 Blood, serum	Injection	HPLC	16	a) 195-29.5 ug/ml b) 216-28.0 ug/ml	a) Not given b) Not given	a) 2 g dose b) 3 g dose Mean peak and trough steady state concentrations (dose once every 8 hr) Patients with bacterial infections INFECTIONS: BLOOD SERUM: ANTIBIOTICS: DRUG THERAPY: DRUGS: COMPARATIVE EVALUATIONS Clinical Pharmacology and Therapeutics 30(1):86-98	Garzone, P. 1981 Lyon, J. 1981 Zuravleff, J. 1981 Brent, S. 1981 Medicine, B. 1981

5-Phis-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 3-((acetyl)amino)-7-((2-oxo-2-thiazolyl) (methoxycarbonyl)acetyl)amino)-8-oxo-, (6R-trans)-
60821-1-
C16-R17-R5-07-S2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
75a3 Blood, serum		Microbiological	12	a) 4-45 ug/ml b) 3-9 ug/ml c) 2.8-3 ug/ml	a) Not given b) Not given c) Not given	a) 1-2 hr b) 3-4 hr c) 1-2 hr Dose 150-200 mg/kg/24 hr Infants and children to 11 mo old with bacterial meningitis. CHILDREN: IMPACTS: INFECTIONS: CEREBROSPINAL FLUID: ANTIBIOTICS: DRUG THERAPY: DRUGS	Bordeaux, J.C. 1981 Priest, B. 1981 La Soulelle Press Medicale 10(8):580-586
75a4 Cerebrospinal fluid	Injection	Microbiological	12	a) 3-19 ug/ml b) 2-11 ug/ml c) 1.0-16.3 ug/ml d) 0.25-0.45 ug/ml	a) Not given b) Not given c) Not given d) Not given	a) 1-2 hr b) 3-4 hr c) 4-5 hr d) 5-6 hr Dose 150 or 200 mg/kg/24 hr Infants and children to 11 mo old with bacterial meningitis. CHILDREN: IMPACTS: INFECTIONS: CEREBROSPINAL FLUID: ANTIBIOTICS: DRUG THERAPY: DRUGS	Bordeaux, J.C. 1981 Priest, B. 1981 La Soulelle Press Medicale 10(8):580-586

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-(((2-(aminomethyl)phenylacetyl)amino)-3-(((1-(carboxymethyl)-1-H-tetrazol-5-yl)thio)methyl)-8-oxo-, (6R-trans)-
 34444-01-8
 C20-H21-N7-O6-S2
 MW 519.40

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7545 Blood, serum	Injection	Microbiological	29	a) 46.7 $\pm$ 0.7 - 3.0 - 51.5 $\pm$ 0.7 b) 7.6 $\pm$ 0.7 - 1.2 - 9.4 $\pm$ 0.7 c) 91.8 $\pm$ 0.7 - 18.2 - 73.4 $\pm$ 0.7 d) 1.1 $\pm$ 0.7 - 1.6 - 6.5 $\pm$ 0.7 e) 2.2 $\pm$ 0.7 - 1.6 - 6.5 $\pm$ 0.7 f) 22-44 ug/ml	a) Not given b) Not given c) Not given d) 42.7 ug/ml e) 42.0 ug/ml	a) Mean peaks at end of infusion, day 1 and day 3 or 4. Dose, 30 min IV of 500 mg, every 6 hr, 10 patients b) Mean trough levels 6 hr after infusion, day 1 and day 7 or 8. Dose as in a) c) Mean peaks at end of infusion, day 1 and day 7 or 8. Dose, 30 min IV of 1 g, every 12 hr, 10 patients d) Mean trough levels 12 hr after infusion, day 7 or 8 and day 3 or 4. Dose as in c) e) After 30 min IV of 500 mg (loading dose) followed by continuous infusion of 500 mg, 6 hr IV. A.S. samples on day 1 or 4 f) Dose as in e). A.S. samples on day 7 or 8 Minimum inhibitory concentration for sensitive organisms obtained with either 500 mg, IV, every 6 hr, or 1 g, IV, every 12 hr. No evidence of drug cussation. Cancer patients, 17-71 yrs old, wt 42-120 kg CARCINOMAS: SARCOMAS; BLOOD SYSTEM; DRUGS: ANTIBIOTICS; DRUG THERAPY: DRUGS	Foley, R.H. Weaver, S.S. Leblanc, B.M. Brown, B. Ho, D.N. Rodey, G.P. 1981 Clinical Pharmacology and Therapeutics 30(3):398-403
7546 Urine	Injection	Microbiological	29	266-3213 ug/ml	1315.8 $\pm$ 0.7 - 347.7 ug/ml	6 hr after 1 g IV, over 30 min, 23-67% (mean 55%) of dose Cancer patients, 17-71 yr old, wt 42-120 kg CARCINOMAS: SARCOMAS; BLOOD SYSTEM; DRUGS: ANTIBIOTICS; DRUG THERAPY: DRUGS	Foley, R.H. Weaver, S.S. Leblanc, B.M. Brown, B. Ho, D.N. Rodey, G.P. 1981 Clinical Pharmacology and Therapeutics 30(3):398-403

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-(((hydroxyphenylacetyl)amino)-3-(((1-methyl-1H-tetrazol-5-yl)thio)methyl)-8-oxo-, (6R-(6alpha,7beta(methyl))-
 34444-01-8
 C18-H18-N6-O5-S2
 MW 462.54

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7547 Cerebrospinal fluid	Injection	Microbiological	55	a) 1.3-4.8 ug/ml b) 0.1-0.6 ug/ml	a) 3.14 ug/ml b) 0.28 ug/ml	a) 1 and 4 hr. Final measurement a.3 ug/ml at 6 hr. Patients with meningitis, inflammation b) 2 and 4 hr. Final measurement 0.2 ug/ml at 4 hr. Patients without meningitis, inflammation Dose 100 mg/kg (1800-2500 mg/m ² body surface) Page of means Newborn-16 yr old children CARCINOMAS: CENTRAL NERVOUS SYSTEM DISEASES; INFECTIONS; CEREBROSPINAL FLUID; ANTIBIOTICS; DRUG THERAPY: DRUGS	Walker, R. Gaboi, P. Villanueva, P. Tonides, P. 1981 Drugs in Experimental Clinical Research 7(2):81-88

58-01benz (b.f) arepine-5-carbonside
289-64-4
C18-N12-N2-O
MW 236.26, MP 204-206 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SURVEY OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7548 Blood, plasma	Ingestion	EPIC	35	a) 1.11-16.51 mg/l b) 0.60-3.83 mg/l	a) Not given b) Not given	a) Carbamazepine (CME) Carbamazepine-10,11-epoxide (CEPOX), metabolite 5.8-242.2% of CME present as CEPOX. Dose 0.3-2.0 g/day CME Epileptic patients AUSTRALIA: CENTRAL NERVOUS SYSTEM DISEASES; BLOOD PLASMA; ANTICONVULSANTS; DRUG THERAPY; DRUGS; CONCENTRATIONS; EVALUATIONS; NERVOUS SYSTEMS	Mihaly, G.B. Phillips, J.A. Yone, R.J. 1977 Clinical Chemistry 23(12):2283-2287
7549 Blood, plasma	Ingestion	EPIC	1	a) 27-7 mg/l b) 8-21 mg/l	a) Not given b) Not given	a) At admission to hospital and 166 hr later. 18 mg/l at 24 hr and 27 mg/l at about 36 hr b) 36 and 120 hr after admission. Initial measurement 3 mg/l. Carbamazepine epoxide Accidental overdose (amount unknown) about one day before admission 8: yr old Stuporous, unable to verbalize, unresponsive to painful stimuli, neurologically abnormal CALIFORNIA: NERVOUS SYSTEM DISEASES; BLOOD PLASMA; ANALGESICS; ANTICONVULSANTS; DRUG THERAPY; DRUGS; METABOLITES	Rockoff, S. Baselt, R.C. 1981 Clinical Toxicology 18(4):335-339

58-01benz (b.f) arepine, 10,11-dihydro-5-(3-(methylamino)propyl)-, monohydrochloride (8 CI)
58-28-6
C18-N22-N2-C1-H
MW 302.88, MP 214-218 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SURVEY OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7550 Blood, plasma	Ingestion	GC/MS	12	a) 4.5-51.5 mg/ml b) 62-407 mg/ml	a) Not given b) Not given	a) 24 hr after 50 mg b) Steady state levels at 150 mg/day Significant correlation between 24 hr and steady state levels 22-81 yr old physically healthy patients with depressive symptoms. BEHAVIOR DISORDERS; BLOOD; ANTIDEPRESSIVE AGENTS; DRUG THERAPY; DRUGS	Radtke, R.V. Yone, R.C. 1980 Communications in Psychopharmacology 4:165-168

5a-Pibenz (b-2) azepine, 5-(3-(dimethylamino)propyl)-10,11-dihydro- (8 CI)
 5a-Pibenz (b-2) azepine-3-propanamine, 10,11-dihydro-N,N-dimethyl- (8 CI)
 C19-28-82
 RU 280.40, BP 160 C at 0.01 mm Hg

TEST	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	DOSE	GENERAL INFORMATION	REFERENCE
7551 Blood		GC TLC UV C/MS Enzymatic	1	0.5-1.0 mg/L	Not given	Dose probably sufficient to contribute to signs and symptoms identical to those receiving identical samples for toxic screen. Overdose drugs identified in 508-708 of coroners records. Laboratories agreed on 6 of 23 drugs reported present in serum of 20 patients. Levels were variable and appeared imprecise. Probable drug overdose patients, Boston, MA ANALGESICS: BLOOD; ANALGESICS; ANTICONSULSANTS; ANTIDEPRESSANTS; AGENTS; ANTIPTICS; DRUG ABUSE; DRUGS; HYPNOTICS; NARCOTICS; SEDATIVES; TRANQUILLIZERS; COMPARATIVE EVALUATIONS; ALCOHOLS; MEASUREMENT METHODS	Imhoff, J.A. Tashiro, G. Shino, B. Costello, C.R. Goldman, P. 1981 Clinical Pharmacology and Therapeutics 29(5):576-575
7552 Blood		GC	1	a) Not applicable b) Not applicable	a) 0.05 mg b) 0.02 mg	a) XAD-2 resin extraction b) Solvent extraction Fatal poisoning AUTOPSIES: BLOOD; BRAIN; KIDNEYS; LIVER; DRUG ABUSE; DRUGS; FORENSIC MEDICINE; MEASUREMENT METHODS	Boquist, R. Gier, J. Bialka, J. 1978a Archives of Toxicology 41:153-162
7553 Blood		GC UV	1	a) Not applicable b) Not applicable	a) 0.02 mg/100g b) 0.05 mg/100g	a) Solvent extraction method b) XAD-2 resin bag extraction method Fatal overdose case Poland POLAND: BLOOD; BRAIN; LIVER; DRUG ABUSE; DRUGS; MEASUREMENT METHODS	Boquist, R. Gier, J. Bialka, J. 1978b Forensic Science International 12:73-82
7554 Brain		GC	1	a) Not applicable b) Not applicable	a) 0.5 mg b) 0.2 mg	a) XAD-2 resin extraction b) Solvent extraction Fatal poisoning AUTOPSIES: BLOOD; BRAIN; KIDNEYS; LIVER; DRUG ABUSE; DRUGS; FORENSIC MEDICINE; MEASUREMENT METHODS	Boquist, R. Gier, J. Bialka, J. 1978a Archives of Toxicology 41:153-162
7555 Brain		GC UV	1	a) Not applicable b) Not applicable	a) 0.3 mg/100g b) 0.6 mg/100g	a) Solvent extraction method b) XAD-2 resin bag extraction method Fatal overdose case Poland POLAND: BLOOD; BRAIN; LIVER; DRUG ABUSE; DRUGS; MEASUREMENT METHODS	Boquist, R. Gier, J. Bialka, J. 1978b Forensic Science International 12:73-82
7556 Liver		GC	1	a) Not applicable b) Not applicable	a) 1.2 mg b) 0.4 mg	a) XAD-2 resin extraction b) Solvent extraction Fatal poisoning AUTOPSIES: BLOOD; BRAIN; KIDNEYS; LIVER; DRUG ABUSE; DRUGS; FORENSIC MEDICINE; MEASUREMENT METHODS	Boquist, R. Gier, J. Bialka, J. 1978a Archives of Toxicology 41:153-162

(NEXT PAGE)

58-Dibenz (b,d)azepine, 3-(3-(dimethylamino)propyl)-10,11-dihydro- (8 CI)
 58-Dibenz (b,d)azepine-5-propionate, 10,11-dihydro-8,9-dimethyl- (9 CI)
 C19-824-82
 NU 288-40, BP 140 C at 0.01 mm Hg

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7557 Liver		GC BF	1	a) Not applicable b) Not applicable	a) 0.5 ug/100g b) 1.6 ug/100g	a) Solvent extraction method b) K&B-2 resin bag extraction method Fatal overdose case Poisoned ECIARD; BLOOD; BRAIN; LIVER; DRUG ABUSE; DRUGS; MEASUREMENT METHODS	Seque, M. Sier, J. Sier, J. 1980 Toxicologic Sciences International 12:13-62

58-Dibenz (a,d) cycloheptene-delta (5, gamma)-propylamine, 10,11-dihydro-8-methyl- (8 CI)
 1-Propylamine, 3-(10,11-dihydro-58-dibenz (a,d) cyclohepten-3-ylidene)-1-methyl- (9 CI)
 72-68-5
 C19-821-8
 NU 263.37, BP 213-215 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7558 Blood, Plasma	Ingestion	GC	3	a) 0.1-16 ug/ml b) 24-37 ug/ml c) 3.0-12 ug/ml	a) Not given b) Not given c) Not given	a) 2 hr after 75 mg b) Peak values at 6-8 hr after 75 mg c) Plasm concentrations at 72 hr after 75 mg Healthy volunteers < 60 yr old ADULTS; BLOOD PLASMA; ANTIDEPRESSIVE AGENTS; DRUGS; METABOLITES	Burch, J.E. Harris, R.P. 1981 Psychopharmacology 70:35-42

58-Dibenz (a,d) cycloheptene-delta (5, gamma)-propylamine, 10,11-dihydro-8,9-dimethyl- (8 CI)
 1-Propylamine, 3-(10,11-dihydro-58-dibenz (a,d) cyclohepten-3-ylidene)-8,9-dimethyl- (9 CI)
 C-20-86
 C20-823-8
 NU 277.39, BP Hydrochloride 196-197 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7559 Bile	Ingestion	GC	1	a) Not applicable b) Not applicable	a) 13.9 ug/ml b) 0.60 ug/ml	a) Amitriptyline b) Metabolite (nortriptyline) Autopsy samples. Dose unknown 33 yr old suicide victim Elevated pulse and blood pressure, sinus tachycardia, coma, cardiopulmonary arrest. ADULTS; AUTOPSIES; SUICIDE; BILE; BLOOD PLASMA; BRAIN; CEREOSPINAL FLUID; HEART; KIDNEY; LIVER; EXCRETORY GLANDS; VITREOUS HUMOR; SERIAL VESICLES; ANTIDEPRESSIVE AGENTS; DRUG ABUSE; DRUGS	Burt, M.F. Jarboe, C.S. 1981 Clinical Toxicology 18(1):119-125
7560 Blood	Ingestion	TLC	12	a) 0.06-11.20 ug/ml b) Not detected-6.60 ug/ml	a) 2.23 $\pm$ 2.76 ug/ml b) 1.20 $\pm$ 2.03 ug/ml	a) Paracetamol b) Metabolite (nortriptyline) Suicide victims, San Diego, CA AUTOPSIES; SUICIDE; BLOOD; HEART; LIVER; ANTIDEPRESSIVE AGENTS; DRUG ABUSE; DRUGS; FORENSIC MEDICINE	Ballier, D.F. Shaw, R.P. 1980 Journal of Analytical Toxicology 2:223-236

(NEXT PAGE)

5-*n*-dibenzof(a,d) cycloheptene- δ -(5,6a,8a)-propylamide, 10,11-dihydro-8,8-dimethyl- (8 CI)
 5-*n*-dibenzof(a,d) cycloheptene- δ -(5,6a,8a)-propylamide, 10,11-dihydro-5H-dibenzof(a,d) cycloheptene-5-ylidene)-9,9-dimethyl- (9 CI)
 C20-823-H
 MW 277.39, 9H Hydrochloride 196-197 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SURVIVAL OF CASES	RANGE	REMARKS	GENERAL INFORMATION	REFERENCE
7561 Blood			7	0.08-0.73 mg/100 ml	Not given	Drug induced fatalities. Ethanol (2 cases, 0.02-0.15 g/100 ml), desipirazine (1 case, 0.03 mg/100 ml), chloridazine (2 cases, 0.07-0.18 mg/100 ml), methadone (2 cases, 0.03 mg/100 ml), and carisoprodol (1 case, 0.2 mg/100 ml) also found.	Sehara, S.B., Koyuchi, T., Kawanishi, S., and Kawanishi, S.C. 1978. Journal of Analytical Toxicology 3:137-142
7562 Blood, Plasma	Ingestion	GC	6	a) 5.0-33 ng/ml b) 0.9-33 ng/ml c) 2.1-1.8 ng/ml d) 4.5-18 ng/ml e) 1.3-6.4 ng/ml f) 5.5-66 ng/ml g) 36-75 ng/ml h) 1.0-9.5 ng/ml i) 9-25 ng/ml j) 3.4-19 ng/ml	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given	Initial measurements at 2 hr after 50 mg b) Peak values at 3-8 hr after 50 mg c) Final measurements at 72 hr after 50 mg d) Metabolite (nortriptyline). Initial measurements at 2-3 hr after 50 mg e) Metabolite (nortriptyline). Peak measurements at 2-8 hr after 50 mg f) Metabolite (nortriptyline). Final measurements at 72 hr after 50 mg g) Initial measurements at 1-2 hr after 100 mg h) Peak values at 2-8 hr after 100 mg i) Final measurements at 48-72 hr j) Metabolite (nortriptyline). Initial measurements at 2-3 hr after 100 mg k) Metabolite (nortriptyline). Peak values at 4-12 hr after 100 mg l) Metabolite (nortriptyline). Final measurements at 48-72 hr after 100 mg Healthy volunteers < 40 yr old	Burch, J.E., Pullia, B.P. 1981a. Psychopharmacology 78:33-42
7563 Blood, Plasma	Ingestion	GC	6	a) 15-73 ng/ml b) 1.5-9.2 ng/ml c) 5.0-28 ng/ml d) 4.4-15 ng/ml	a) Not given b) Not given c) Not given d) Not given	ADULTS: BLOOD PLASMA: ANTIDEPRESSIVE AGENTS: DRUGS; METABOLITES a) Peak levels at 4-12 hr. Initial measurements 1.0-19 ng/ml at 1-3 hr b) Final measurements for d) at 48-72 hr c) Peak levels at 4-8 hr. Nortriptyline (metabolite). Initial measurements 1.5-7.7 ng/ml at 3-8 hr d) Final measurements for c) at 48-72 hr Dose, 100 mg sustained release tablet	Burch, J.E., Pullia, B.P. 1981b. Psychopharmacology 78:43-50

(8011 PAGE)

58-Dibenzo(a,d) cycloheptene-delta(5,9a,10a)-propylamine, 10,11-dihydro-8,8-dimethyl- (8 CI)
 1-Propenamine, 3-(10,11-dihydro-5H-dibenzo(a,d) cycloheptene-5-ylidene)-8,8-dimethyl- (9 CI)
 C20-H23-N
 MW 277.39, BP Hydrochloride 196-197 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7568 Blood, plasma	Ingestion	GC	1	a) 1070-380 ug/ml b) 350-450 ug/ml c) Not applicable d) Not applicable	a) Not given b) Not given c) 0.25 ug/ml d) 0.58 ug/ml	a) Estimated 10 and 30 hr after overdose, 10 mg/kg at 2 hr after overdose, 15 mg/kg at 3 hr after overdose, 400 ug/ml at 82 hr. Metabolite (nortriptyline) c) Autopsy sample (death about 45 hr after overdose) d) Autopsy sample. Metabolite (nortriptyline) Estimated from graph Time and time of ingestion not known. 33 yr old suicide victim Elevated pulse and blood pressure, sinus tachycardia, coma, cardiopulmonary arrest. ADULTS: AUTOPSIES; SUICIDE; BILE; BLOOD PLASMA; BRAIN; CEREBROSPINAL FLUID; HEART; KIDNEYS; LIVER; PITUITARY GLAND; VITREOUS HUMOR; CEREBRAL VESICLES; ANTIDEPRESSIVE AGENTS; DRUG ABUSE; DRUGS	Hurst, R.E. Jarboe, C.E. 1991 Clinical Toxicology 18(1):119-125
7565 Brain	Ingestion	GC	1	a) 6.4-8.5 ug/g b) 18.6-25.8 ug/g	a) Not given b) Not given	a) Nortriptyline b) Metabolite (nortriptyline) Autopsy samples, dose unknown. Range for different areas of brain 33 yr old suicide victim Elevated pulse and blood pressure, sinus tachycardia, coma, cardiopulmonary arrest. ADULTS: AUTOPSIES; SUICIDE; BILE; BLOOD PLASMA; BRAIN; CEREBROSPINAL FLUID; HEART; KIDNEYS; LIVER; PITUITARY GLAND; VITREOUS HUMOR; CEREBRAL VESICLES; ANTIDEPRESSIVE AGENTS; DRUG ABUSE; DRUGS	Hurst, R.E. Jarboe, C.E. 1991 Clinical Toxicology 18(1):119-125
7566 Cerebrospinal fluid	Ingestion	GC	1	a) Not applicable b) Not applicable	a) 0.55 ug/ml b) 1.40 ug/ml	a) Nortriptyline b) Metabolite (nortriptyline) Autopsy samples. Dose unknown 33 yr old suicide victim Elevated pulse and blood pressure, sinus tachycardia, coma, cardiopulmonary arrest. ADULTS: AUTOPSIES; SUICIDE; BILE; BLOOD PLASMA; BRAIN; CEREBROSPINAL FLUID; HEART; KIDNEYS; LIVER; PITUITARY GLAND; VITREOUS HUMOR; CEREBRAL VESICLES; ANTIDEPRESSIVE AGENTS; DRUG ABUSE; DRUGS	Hurst, R.E. Jarboe, C.E. 1991 Clinical Toxicology 18(1):119-125
7567 Heart	Ingestion	TLC	32	a) 0.09-48.10 ug/g b) Not detected-40.02 ug/g	a) 11.29 + or - 16.25 ug/g b) 6.41 + or - 9.82 ug/g	a) Parent compound b) Metabolite (nortriptyline) Suicide victims, San Diego, Ca AUTOPSIES; SUICIDE; BLOOD; HEART; LIVER; ANTIDEPRESSIVE AGENTS; DRUG ABUSE; DRUGS; FORENSIC MEDICINE	Beiley, D.B. Shaw, E.F. 1986 Journal of Analytical Toxicology 9:233-236

(NEXT PAGE)

5M-dibenzos (a,d) cycloheptene-delta (5, gamma)-propanolone, 10, 11-dihydro-2, 2-dimethyl- (8 CI)
 5M-copasmanolone, 3-(10, 11-dihydro-5H-dibenzos (a,d) cycloheptene-5-ylidene)-2, 2-dimethyl- (9 CI)
 C20-H23-N
 MW 277.39, BP hydrochloride 196-197 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7568 Heart	Ingestion	GC	1	a) Not applicable b) Not applicable	a) 2.7 ug/g b) 9.6 ug/g	a) Atracurium b) Metabolite (Atracurium) Autopsy samples. Some unknown 33 yr old suicide victim Elevated pulse and blood pressure, sinus tachycardia, coma, cardiopulmonary arrest. ADULTS: AUTOPSIES: SUICIDE: BILE; BLOOD PLASMA: BRAIN: CEREOSPINAL FLUID; HEART: KIDNEYS: LIVER; PITUITARY GLAND: VITREOUS HUMOR; ANTIDEPRESSIVE AGENTS: DRUG ABUSE; DRUGS: SEMINAL VESICLES	Hurst, H.E. Jarboe, C.H. 1981 Clinical Toxicology 18(1):119-125
7569 Kidney	Ingestion	GC	1	a) Not applicable b) Not applicable	a) 2.9 ug/g b) 8.2 ug/g	a) Atracurium b) Metabolite (Atracurium) Autopsy samples. Some unknown 33 yr old suicide victim Elevated pulse and blood pressure, sinus tachycardia, coma, cardiopulmonary arrest. ADULTS: AUTOPSIES: SUICIDE: BILE; BLOOD PLASMA: BRAIN: CEREOSPINAL FLUID; HEART: KIDNEYS: LIVER; PITUITARY GLAND: VITREOUS HUMOR; ANTIDEPRESSIVE AGENTS: DRUG ABUSE; DRUGS: SEMINAL VESICLES	Hurst, H.E. Jarboe, C.H. 1981 Clinical Toxicology 18(1):119-125
7570 Liver	Ingestion	TLC	32	a) 0.15-243.00 ug/g b) Not detected-456.00 ug/g	a) 62.28 ug- 71.47 ug/g b) 48.93 ug- 89.26 ug/g	a) Patient compound b) Metabolite (Atracurium) Suicide victims, San Diego, CA AUTOPSIES: SUICIDE: BLOOD: HEART: LIVER; ANTIDEPRESSIVE AGENTS: DRUG ABUSE; DRUGS: FORENSIC MEDICINE	Beiley, D.S. Haw, P.F. 1980 Journal of Analytical Toxicology 4:232-236
7571 Liver	Ingestion	GC	1	a) Not applicable b) Not applicable	a) 1.7 ug/g b) 3.0 ug/g	a) Atracurium b) Metabolite (Atracurium) Autopsy samples. Some unknown 33 yr old suicide victim Elevated pulse and blood pressure, sinus tachycardia, coma, cardiopulmonary arrest. ADULTS: AUTOPSIES: SUICIDE: BILE; BLOOD PLASMA: BRAIN: CEREOSPINAL FLUID; HEART: KIDNEYS: LIVER; PITUITARY GLAND: VITREOUS HUMOR; ANTIDEPRESSIVE AGENTS: DRUG ABUSE; DRUGS: SEMINAL VESICLES	Hurst, H.E. Jarboe, C.H. 1981 Clinical Toxicology 18(1):119-125

(MULTI PAGE)

5H-dibenzo(a,d)cycloheptene-delta(5,gamma)-propanamine, 10,11-dihydro-4,8-dimethyl- (8 CI)
 1-phenyl-, 3-((10,11-dihydro-5H-dibenzo(a,d)cyclohepten-5-ylidene)-6,8-dimethyl- (9 CI)
 20-823-N
 MW 277.39, mp Hydrochloride 196-197 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	MEAN	GENERAL INFORMATION	REFERENCE
7572 Pituitary	Ingestion	GC	1	a) Not applicable b) Not applicable	a) 3.0 ug/g b) 13.0 ug/g	a) Atriciptiline b) Metabolite (nortriptyline) Autopsy samples. Dose unknown 33 yr old suicide victim Elevated pulse and blood pressure, sinus tachycardia, coarse, cardiopulmonary arrest. ADULTS: AUTOPSIES: SUICIDE: BILE; BLOOD PLASMA: BRAIN: CEREBROSPINAL FLUID: HEART: KIDNEYS: LIVER; PITUITARY GLAND: VITREOUS HUMOR; SPINAL VESICLES: ANTIDEPRESSIVE AGENTS; DRUG ABUSE; DRUGS	Harst, H.E. Jarboe, C.S. 1981 Clinical Toxicology 10(1):119-125
7573 Scalal vesicle	Ingestion	GC	1	a) Not applicable b) Not applicable	a) 3.0 ug/g b) 1.4 ug/g	a) Atriciptiline b) Metabolite (nortriptyline) Autopsy samples. Dose unknown 33 yr old suicide victim Elevated pulse and blood pressure, sinus tachycardia, coarse, cardiopulmonary arrest. ADULTS: AUTOPSIES: SUICIDE: BILE; BLOOD PLASMA: BRAIN: CEREBROSPINAL FLUID: HEART: KIDNEYS: LIVER; PITUITARY GLAND: VITREOUS HUMOR; ANTIDEPRESSIVE AGENTS; DRUG ABUSE; DRUGS; SPINAL VESICLES	Harst, H.E. Jarboe, C.S. 1981 Clinical Toxicology 10(1):119-125
7576 Vitreous humor	Ingestion	GC	1	a) Not applicable b) Not applicable	a) 0.05 ug/ml b) 0.06 ug/ml	a) Atriciptiline b) Metabolite (nortriptyline) Autopsy samples. Dose unknown 33 yr old suicide victim Elevated pulse and blood pressure, sinus tachycardia, coarse, cardiopulmonary arrest. ADULTS: AUTOPSIES: SUICIDE: BILE; BLOOD PLASMA: BRAIN: CEREBROSPINAL FLUID: HEART: KIDNEYS: LIVER; PITUITARY GLAND: VITREOUS HUMOR; SPINAL VESICLES: ANTIDEPRESSIVE AGENTS; DRUG ABUSE; DRUGS	Harst, H.E. Jarboe, C.S. 1981 Clinical Toxicology 10(1):119-125

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7575 Blood, plasma	Injection	BIA	20	a) 16.62-0.37 ng/ml b) 14.62-0.38 ng/ml c) 3.61-0.36 ng/ml	a) Not given b) Not given c) Not given	a) 2 and 180 min after 0.3 mg intraperitoneally, 11 subjects b) 2 and 180 min after 0.3 mg postoperatively, 17 given 180 min after the initial intraoperative dose (10 subjects) c) 5 and 180 min after 0.3 mg postoperatively IM, given 180 min after initial intraoperative dose (11 subjects); initial measurement 3.56 ng/ml at 2 min.	Bullingham, R.E.S. McQuay, H.J. Moore, A. Bennett, M.R.D. Clinical Pharmacology and Therapeutics 28 (5):667-672
						Hospital patients undergoing total hip replacement surgery.	
						BLOOD PLASMA; ANALGESICS; DRUG THERAPY; DRUGS; NARCOTICS; SURGERY	

6H-Dibenzo(b,d)pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6'-9-trimethyl-3-pentyl-, (6aZ-trans)-
1972-09-3
C21-H30-O2
MW 318.45

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7576 Blood, plasma	Injection Ingestion Inhalation	GC/MS	11	a) 220-4 mg/ml b) 49-2 mg/ml c) 4-1.5 mg/ml	a) Not given b) Not given c) Not given	a) 3 and 240 min after 5 mg IV b) 3 and 240 min after 19 mg cigarette c) 60 and 360 min after 20 mg oral. Initial measurement 3 mg/ml at 30 min Relationship to degree of intoxication closest for c) Range of means, estimated from graph 18-35 yr old volunteers Reddressed conjunctivae, increased pulse rate ACETTS; BLOOD PLASMA; DTGGS; PSYCHOTROPIC DTGGS; COMPARATIVE EVALUATIONS	Hollister, L.P. Gillespie, H.K. Ollason, A. Lindgren, J.E. Mason, R. Meyler, S. 1961 Journal of Clinical Pharmacology 21: 171S-177S

(SEE PAGE)

6R-dibenz(b,d)pyran-1-ol, 6a,7,8,10a-tetrahydro-6,9-triaethyl-3-pentyl-, (6aR-trans)-
 1572-08-3
 C21-H30-O2
 MW 314.45

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	CENTRAL INFORMATION	REFERENCE
7577 Blood, plasma	Injection Ingestion Inhalation	GC/MS TLC		a) 0.8-9.3 ng/ml b) 1.0-6.8 ng/ml c) 0.2-62 ng/ml d) 0.1-3.4 ng/ml e) 2.0-0.025% of dose f) 0.12-0.8 of dose	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 45 and 360 min after 20 mg oral. Final measurement 1.3 ng/ml at 1440 min (6 subjects). b) 15 min after 20 mg oral. Metabolite 11-OH-THC. c) 15 min after 20 mg oral. tetrahydrocannabinol (THC). Final measurement 1.1 ng/ml at 1440 min. Other metabolites totaled 128 ng/ml (same subjects as a). d) Initial level and 20 min after 25 min IV of 4-5 mg. 2.8 ng/ml at 4320 min (7 subjects). e) Initial level and 25 min after 25 min IV of 55 mg. 0.2 ng/ml at 4320 min. Metabolite 11-OH-THC. Other metabolites totaled 128 ng/ml at 20 min (same subjects as c). f) 4 and 1440 min after 5.0 mg, from smoking. g) 20 and 1440 min after 6.0 mg, from smoking. Metabolite (11-OH-THC). Other metabolites accounted for 2-4% of dose. Range of means. e) and f) estimated from graph. BLOOD PLASMA: URINE: DRUGS; PSYCHOTROPIC DRUGS; EXHALATION; METABOLISM; METABOLITES	Wall, M.E. Peters-Reyes, R. 1981 Journal of Clinical Pharmacology 21:1785-1895
7578 Blood, plasma	Inhalation	GC/MS	11	37.5-1.9 ng/ml	Not given	0.25 and 24 hr after smoking cigarette containing 10.8 mg. Initial measurement 3.8 ng/ml. Range of means. Healthy 21-26 yr olds BLOOD PLASMA: DRUGS; PSYCHOTROPIC DRUGS; MEASUREMENT METHODS	Valentine, J.L. Bryant, P.J. Guthall, P.L. Gano, R.H. Lovegreen, P.D. Thompson, E.D. 1977, M.C. Journal of Pharmaceutical Sciences 66(4):1263-1266
7579 Blood, plasma		RPLC	6	a) 180-0.30 ng/ml b) 100-0.25 ng/ml	a) Not given b) Not given	a) At 5 and 1600 min before chronic oral dose, and following 2 min IV of 2 mg. b) At 5 and 1600 min after chronic oral dose (20 or 40 mg every 4 hr for 12 days) and following 2 min IV of 2 mg. c) Estimated from graph. Healthy 22-30 yr olds, at 66.2-81.7 kg. Smoked 11-40 marihuana cigarettes per week for 5.8 yr (average). ADULTS: BLOOD PLASMA: URINE: DRUGS; PSYCHOTROPIC DRUGS	Rant, C.A. Jones, S.Y. 1980 Journal of Pharmacology Theophrastus 215(1):35-44
7580 Blood, plasma	Inhalation	BIA		a) 175-0 ng/ml b) 400-20 ng/ml	a) Not given b) Not given	a) 0.25 and 4 hr after 3 consecutive marihuana cigarettes. b) 0.25 and 48 hr. Same study as a). Re-inhalation level approximately 11 ng/ml. Metabolite (11-OH-THC). Metabolite 9-beta-hydroxy-THC. Estimated from graph. BLOOD PLASMA: SALIVA: DRUGS; PSYCHOTROPIC DRUGS; MEASUREMENT METHODS	Gross, S.J. Sokal, J.B. 1978 Journal of Analytical Toxicology 2:98-100

(BEST PAGE)

4a-Dibenz(b,d)pyrac-1-ol, 6a, 7a, 8, 10a-tetrahydro-6, 8, 9-triaethyl-3-pentyl-, (6aR-trans)-
1972-08-3
C21-H30-O2
R# 318.95

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	SEAR	GENERAL INFORMATION	REFERENCE
7581 Saliva		RIA		a) 90-15 ug/ml b) 67-25 ug/ml	a) Not given b) Not given	a) 0.25 and 0.5 hr after 3 cigarettes, each containing 19.8 ug. nicotine, 50 ug/ml at 5.5 hr b) 0.25 and 3.5 hr after study as a metabolite (11-hydroxy-carboxy-deiva-5-tetrahydrocannabinol) BLOOD PLASMA: SALIVA: DRUGS; PSYCHOTROPIC DRUGS; NEARBY DRUGS	Grone, S.J., Suarez, J.B., 1978 Journal of Analytical Toxicology 2:99-100
7582 Urine	Injection	GC/MS TLC	7	a) 5-1.2% of dose b) 3.5-0.7% of dose c) 1.5-0.5% of dose	a) Not given b) Not given c) Not given	a) Total cannabinoids b) Cannabinoids c) Free cannabinoids 74 and 72 hr after 6-5 ug IV BLOOD PLASMA: URINE: DRUGS; PSYCHOTROPIC DRUGS; IMMUNIZATION; METABOLISM; METABOLITES	Wall, R.F., Peters-Leyen, M., 1981 Journal of Clinical Pharmacology 21:1785-1895
7583 Urine	Injection Ingestion	RP/LC	6	a) Not given b) Not given	a) 21-2 ug- 3.3% b) 17.5 ug- 3.3%	a) 96 hr output, before chronic oral dose following 2 sin IV of 2 ug b) After chronic oral dose (20 or 10 mg every 6 hr for 2 days) and following 2 sin IV of 2 ug Healthy 22-30 yr old, wt 46.2-63.7 kg. Smoked 11-40 cigarettes per week for 5.8 yr (average) ADULTS; BLOOD PLASMA: URINE: DRUGS; PSYCHOTROPIC DRUGS	Hust, C.A., Jones, R.T., 1980 Journal of Pharmacology and Experimental Therapeutics 215(1):135-44

7a-Pero(3,2-g) (1) benzopyran-7-one, 8-methoxy-
864-20-8
C12-H8-O4
R# 216.16

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	DOSE	SEAR	GENERAL INFORMATION	REFERENCE
7584 Blood, urine	Ingestion	RP/LC	a) 7 b) 3	a) 452-538 ug/l b) 61-152 ug/l	a) 406 ug- 303 ug/l b) 92 ug- 52 ug/l	a) 2.5-4 hr (mean 3.2 hr) after 1.2 ug/kg b) 2.5-3 hr (mean 2.8 hr) after 0.6 ug/kg Peak level Painless patients, 24-49 yr old, wt 41-55 kg ADULTS; SKIN DISORDERS; RACED DRUGS; URINE; DRUG THERAPY; DRUGS	Spolz, L.M., Kocherhof, R., Corrao, R.B., Van Zuijlen, P.A., 1981 British Journal of Dermatology 105:415-420
7585 Urine	Ingestion	RP/LC TLC	5	2.0-8.6 ug/24 hr	5.7 ug- 2.5 ug/24 hr	Dose 1.2 ug/kg. Not detected in 2 patients. Tendinosis patients, 24-64 yr old, wt 41-95 kg ADULTS; SKIN DISORDERS; RACED DRUGS; URINE; DRUG THERAPY; DRUGS	Spolz, L.M., Kocherhof, R., Corrao, R.B., Van Zuijlen, P.A., 1981 British Journal of Dermatology 105:415-420

9a-Dibenzof(b,d)pyran-9-one, 3-(1,1-dimethyl-1-phenyl-4-hydroxy-6,6-dimethyl-2, trans-(*)-
 51022-71-0
 C28-H36-O3
 MW 372.60

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	SEAL	GENERAL INFORMATION	REFERENCE
7586 Blood, plasma	Injection Ingestion	TLC Radioassay	8	a) 40-0.3 mg/kg/ml b) 25-0.55 mg/kg/ml c) 1.8-0.7 mg/kg/ml d) 1.3-12 mg/kg/ml e) 0.7-1.7 mg/kg/ml f) 0.18-1.2 mg/kg/ml	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) Total radioactivity. 0 and 72 hr (5 subjects) b) Metabolite of nabilone. 0 and 8 hr (2 subjects) c) Alcohol metabolite of nabilone. 0 and 8 hr (3 subjects) d) Total radioactivity. Initial measurement and 8 hr. 1.8 mg/kg/ml at 72 hr (2 subjects) e) Nabilone. Initial measurement 0.7 mg/kg/ml (2 subjects) f) Alcohol metabolite of nabilone. Initial measurement and 2 hr. 0.8 mg/kg/ml at 8 hr (2 subjects) Range of means, estimated from graph, after 0.5 mg (12 ucl) IV (a-c) or 2.0 mg (48 ucl) oral (d-f)). Healthy 23-43 yr olds BLOOD PLASMA: URINE: DRUGS: PSYCHOTROPIC DRUGS: METABOLITES	Rubio, A. Leiberg, L. Warrick, R. Crabtree, R.E. Sullivan, H. Rose, H. Obermeyer, B.D. 1977 Clinical Pharmacology and Therapeutics 22(1):85-91
7587 Urine	Injection Ingestion	TLC Radioassay	8	a) Not given b) Not given	a) 22% of dose b) 24% of dose	a) 7 day cumulative excretion after 0.5 mg (12 ucl) IV (5 subjects) b) Cumulative excretion after 2.0 mg (48 ucl) oral (2 subjects) Healthy 23-43 yr olds BLOOD PLASMA: URINE: DRUGS: PSYCHOTROPIC DRUGS: METABOLITES	Rubio, A. Leiberg, L. Warrick, R. Crabtree, R.E. Sullivan, H. Rose, H. Obermeyer, B.D. 1977 Clinical Pharmacology and Therapeutics 22(1):85-91